



ICT-PSP Project no. 297158

EUROPEANAPHOTOGRAPHY

EUROPEAN Ancient PHOTOgraphicvintaGe repositoRies of digitAized Pictures of
Historical qualitY

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Dependencies	

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1 EXECUTIVE SUMMARY

This deliverable is primarily the presentation of the results of digitisation process applied to the original photographs selected for the publication in Europeana. An approximate total of 158.410 images were digitised and catalogued and they can be accessed in each partner's website. The document also contains additional information to better understand the whole tasks of digitisation. Digitisation is not just a technological conversion, but a process that includes selection and preparation of original masterpieces, metadata creation, and quality control.

The first part of the document (section 2) is dedicated to the digitisation process, giving information about the different activities that compose the whole process. It contains an explanation about the originals that are digitised, as the physical characteristics are highly relevant. There is a presentation of the originals from the morphological point of view, describing about carriers, emulsions and final image components. The understanding of these originals is crucial for preparation works, mainly for handling and transportation. It is also important to evaluate physical condition and in some cases to restore or at least to clean the surfaces of the photographs. From the organizational point of view, there is a work to do with batching of photographs with similar technical characteristics, making linkages with the originals or checking data contained in the originals. It is also necessary to attend technical and technological issues before starting with the digitisation. That means to define the digitisation standards to be applied throughout the project, and to establish the recommended image parameters for the project. It is important to include a quality control for the digitisation process, to check the process and the results (i.e. the digitised images). Finally, there is an explanation about cataloguing and technical metadata, both necessary to manage the digitisation process. All the explanations from this part of the document are linked to the next part, the digitisation progress (section 4).

The second part of the document is the main part (section 4) as it describes in detail the results of the digitisation progress until the month 18th (July 2013). We decided not to list every digitised image as we can demonstrate the work done so far by giving a URL to each partner's website. So, we communicate in this document the images that are already digitised for each partner and a link to check that these images exist. To better understand each partner's work, we also include information about: fond or collection digitised; the number of source objects digitised - as one object can be digitised in more than one image, for example, the front and the back of a print the reportages (for selection), etc; information about originals: the main carriers represented in the collection, the main photographic standard formats and the main chemical processes or commercial names of the processes; technical characteristics of the images: spatial resolution, bits per sample, color space and graphic format for masters; the digitising equipment: maker and model of scanners and cameras; software for capture; software for management of digital files; and finally the criteria of each institution for file naming.

Finally, the last part of the document explains the responsibilities in WP3 to gather data and inform to coordinators about any issue concerning digitisation progress (section 5). They are mainly the tasks of tracking the digitisation works for periodical reports and asking for planning to each content provider. The document continues with information about training events organized during the project life.

2 INTRODUCTION

For the purpose of this work package it is convenient to clarify the concept of digitisation as it includes a large number of activities, many of which are unavoidable. The definition of U.S. Federal Agencies is crucial: "Digitisation is a complete process that broadly includes: selection, assessment, prioritization, project management and tracking, preparation of originals for digitisation, metadata collection and creation, digitising, quality management, data collection and management, submission of digital resources to delivery systems and into a repository environment, and assessment and evaluation of the digitisation effort "[USA, Federal Agencies Digitisation Guidelines Initiative (FADGI) 2009]. With this definition as a premise, we explain in this document the work performed in WP3.

Before starting with the concrete explanation of the works done so far and to show the results obtained to date, it is important to mention those requirements that were considered important to align all partners to a digitisation process with quality guarantees. It was made available to all partners the following resources:

- Technical specifications aligned to digitisation requirements.
- Guidelines for preparing the original photographs.
- Metadata to documenting the digitisation process.
- Control procedures and quality assurance.

These requirements were assumed by all project partners in order to ensure high quality digitisation. In addition each member assumed responsibility for their own devices and software.

2.1 BACKGROUND

This project envisions the contribution of 438.024 individual photographic items to Europeana, dated between the invention of photography and the beginning of the Second World War. We aim to contribute high quality images that show the world as it was and was seen in the very beginning of photography.

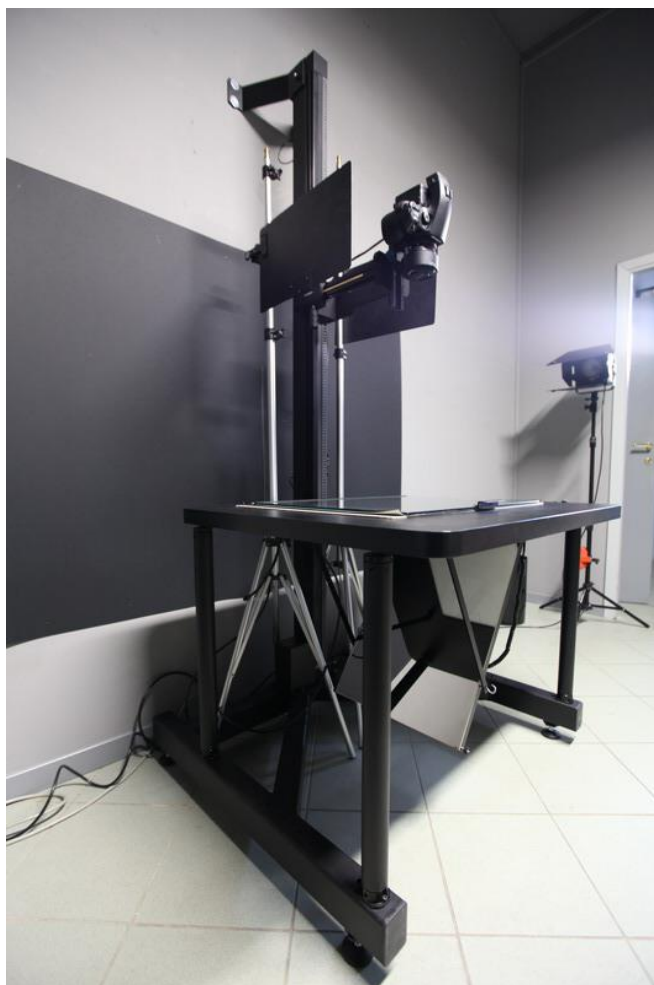
This deliverable is aimed at submitting the results of digitising the original photographs, in order to publish them in Europeana portal. Furthermore, it contains valuable information to better understand the whole tasks of digitisation and to highlight the uniqueness of the digitised photographs, not just for its content value but also for its relevance as objects of the European cultural heritage.

2.2 ROLE OF THIS DELIVERABLE IN THE PROJECT

This deliverable submits the results of the digitisation process in the EuropeanaPhotography project until M18. In addition, it includes detailed explanations about all the activities regarding digitisation. The role of the deliverable is significant as EuropeanaPhotography is a digitisation project with the mission to ensure that that digital content related to ancient photography is accessible in Europeana portal.

2.3 APPROACH

WP3 is dedicated to the digitisation of the content identified in WP2. This content was already selected and explained in detail in the deliverable 2.2 (December 2012). Digitisation is done in compliance with project standards agreed in the content seminar in Leuven (April 2012). WP3 is also dedicated to local cataloguing, when no catalogue record exists. The results of local cataloguing are also submitted. When digitisation and local cataloguing is done, then partners can proceed with enrichment, WP4, and transferring metadata to MINT, WP5.



2.4 STRUCTURE OF THE DOCUMENT

The next section of the document presents information concerning the digitisation process (section 3), giving information about the different activities that take part of the process: archival preparation, conversion to digital, cataloguing and technical metadata. Then, detailed information from the partners about the digitisation progress (section 4): number of images digitised and catalogued and also specific information about originals and technical characteristics of digitisation. The following part of the document explains the responsibilities in WP3 related to tracking the digitisation works for periodical reports concerning digitisation progress (section 5). The document closes with information about training events organized during the term of the project (section 6).

3 DIGITISATION PROCESS

Among the activities carried out under the project, we can mention those that correspond to the preparatory phase, those of digitisation process and those of metadata management. In the DOW there is a structure based on four main tasks that we develop throughout this document: Preparation, Digitisation, Local cataloguing and Digitisation metadata.

- Task 3.1. Preparation. For the preparation of the photographic materials we mainly consider planning outflow of photographs from stores, needs for cleaning and restoration and the use of support tools for streamlining the process: catalogs, collections guides, classification tables.
- Task 3.2. Digitisation. For digitising we must consider the device performance tests, calibration of capture devices, the provision of materials to the scanner or camera, capture, file name, file encryption, assigning formats and compression scheme, the image processing, and quality control.
- Task 3.3. Local cataloguing. Most cataloguing works are related to the adaption and improvement of already existing local catalogues. If catalogue record doesn't exist, such records will be created by the content providers.
- Task 3.4 Digitisation Metadata. The digitisation process generates metadata about file formats, file sizes, equipment used, bit depth, etc. Those metadata are important for the management of the repository and for the quality control process.

3.1 ARCHIVAL PREPARATION

3.1.1 Originals

The technical characteristics of the original photo are absolutely relevant for digitising. It is therefore important to analyze the photographic objects that will be published in Europeana website. The morphology of every object is as well absolutely relevant to understand photographic images from the cultural and technical point of view.

The first hundred years of chemical photography (1839-1939) have provided a wide range of processes with many morphological varieties. It was a period of constant "revolutions" and achievements, but without ever losing what was essential to technology, physical-chemical principles.

In this document, in the descriptive information for each collection that the project partners provided, many of the most representative processes of history are mentioned. In this specific section we only deal with the general characteristics of the material components of the photographs, to have an idea about what we are talking about when mentioning photographic processes. We distinguish five main categories: single image, negatives, positives, color and photomechanical. Because it is very important to explain what kind of materials we digitise, from the point of view of the objects, and not just focus on the content.

The direct positives from camera are those which do not have a negative for posteriors prints. These processes are: daguerreotypes, ambrotypes and tintypes. Physical analysis reveals very different

morphologies in terms of the basic structure. Daguerreotypes are carried out on a plate of copper and silver, while ambrotypes and tintypes correspond to the collodion technique. But they have something in common: the fact of being part of encapsulations or frames (tintypes much less) that highlight their uniqueness. They can not be considered as rare items, but they have not a massive presence in our collections. The contribution of this type of photography to Europeana should be regarded as a highlight.

The negatives are plentiful in our collections, especially those produced in an industrial level, from 1880 with the dry plate. But the negative variety is very important. We find transparent carriers such as glass and plastic (nitrates, acetates), and other semi-transparent, like wax paper with no emulsion (callotypes) or with emulsion (albumen, collodion, gelatin, etc.). The final image can contain various compounds formed by silver (silver iodide, silver bromide, silver chloride, etc.). For its historical significance we could mention the callotype, as the first negative, the wet collodion, as the negative of the nineteenth century (at least until 1880) and the gelatin, the negative that aroused the instantaneous photography and that mastered the market during the century. All this variety of negatives is well represented in the project.

The variety of prints is still higher, but its presence in our collections is somewhat smaller. In general, paper is the predominant media, followed by plastic. However, we can expect any kind of media: metal, ceramics, silk, etc... The images may have an emulsion which hold the silver salts (albumen, collodion, gelatin) but sometimes the salts can be directly on the paper fibers (salt papers, cyanotypes, platinotypes). The final image can be in ferric salts (cyanotypes), pigment (carbon), platinum or palladium (platinotypes) and also, the most common, silver salts (albumen prints, aristotypes and DOP prints). Between the paper and the emulsion it may be an additional layer to obscure paper fibers (baryta). Prints may be created by direct contact with negatives (albumen prints, aristotypes, etc.) or developed in the lab (gelatin DOP). We would like to highlight the role of albumen prints, the predominant print process in the nineteenth century, and the role of gelatin DOP, the absolutely predominant print process in the twentieth century. Hundreds of positive photographic processes exist, but in this project we basically provide those most common ones in that timeframe.



The presence of color photographic plate is limited to autochrome, the Lumière brothers plates. Modern color (chromogenic) is mainly from 1940. Some autochroms are provided from different partners.

We can also mention photomechanical images. There are an important variety of processes that have their origin in a photographic image, but they are produced from a metallic plate. The most common

processes are: the collotype, letterpress and photogravure, all from the last third of the nineteenth century. They are well represented in the collections of the project, mainly in the postcards collections.

This brief presentation of photographic originals is highly relevant in a project of this nature, since the requirement for digitising is largely determined by the physical characteristics of the materials. Moreover, their representation in Europeana is a contribution of great cultural and heritage value.

The concrete photographic processes for each partner collections are detailed in the section 4 of this paper.

3.1.2 Preparation works

Specific procedures for handling, transportation and preparation of originals should be considered into digitisation procedures. Before starting to digitise, there are some works to do, depending on the characteristics of the originals. The most common works in old photography are:

- Evaluation of physical condition and readiness for digitising. Decide whether they can be digitised without previous restoration works.
- Restoring the photographs if they are damaged or deteriorated. That is very exceptional in this project as we digitise a big volume of photographs and restoring is highly expensive.
- Cleaning the glass plates and the plastic plates when necessary as it is important to avoid dust in the digital image.
- Identification of originals to avoid digitising copies. In this project only originals are considered (negatives or vintage prints).
- Removal of any material that is not part of the original object (like papers with notes, etc.) and straightening of pages in the case of albums.
- Batching of photographs with similar technical characteristics: photographic process, carrier, size, hue, color, etc. It makes digitisation easier and more efficient.
- Making linkages with original photographs when a unique identifier doesn't exist. It happens when there is not previous treatment before digitising. It is not very frequent in this project as most collections were already catalogued.
- Checking that all data contained in the original are kept as metadata in the digital file. If the collection was already catalogued, this step is supposed to be already done.
- Organization of the digitisation from boxes, not individually. It is safer for the transport and easier for the control.
- Some specific originals like daguerreotypes, glass pates, etc, need special care when we manipulate them, as they can be very fragile.

Another important issue to take into account when preparing photographs for digitisation is the organization of the file naming. Assign specific file naming are important as they need to be rigorously applied in order to facilitate sharing information and localizing files. The file names must be unique and consistently structured. It may help to introduce zeros to facilitate storing in numerical order and to avoid special characters and spaces. It exist different criteria that are generally accepted:

- File names that are meaningful metadata. They can reflect the existing names of the equivalent original photographs. For example, one meaningful metadata could be the initials of a collection (VF0001 – Collection Valenti Fagnoli).
- Sequential numbering string. The files must be associated with metadata stores elsewhere which will identify the file. For example, 0010005.
- Machine generated names. They must also be associated with metadata elsewhere. It is not the best practice, but it can be accepted. For example, 18186(001).

File naming politics from partners are aligned with these criteria. Each partner explains its politics in section 4 of this document.

3.2 DIGITISATION

3.2.1 Guidelines

One of the goals of the Leuven Content Seminar in WP2 was to define the digitisation standards to be applied throughout the project. To achieve this goal, the consortium selected different papers (guidelines, best practices, manuals, technical specifications, standards, etc.) about digitisation and related works. We collected and published on the project repository 33 papers: 20 papers related to digitisation, 8 papers related to cataloguing works, 2 papers related to digital preservation and 3 papers related to Europeana. As digitisation guidelines useful for this project we highlight the following ones:

- **Technical Guidelines for Digitising Cultural Heritage Materials: Creation of Raster Image Master Files. FADGI, 2010.** This guidelines represents shared best practices followed by the United States Federal Agencies Digitisation Guidelines Initiative (FADGI) Still Image Working Group for digitising cultural heritage materials, a group dedicated to develop common digitisation guidelines for still image materials (such as textual content, maps, and photographic prints and negatives) found in cultural heritage institutions.
- **Digital Imaging Tutorial.** It is a resource developed by the Cornell University Library. It offers basic information on the digital process from basic terminology, metadata, technical infrastructure, quality control and many more. This tutorial enables you to understand the digital process and the use of digital imaging to convert and make accessible cultural heritage materials.

3.2.2 Recommended image parameters

The recommended parameters depend on the characteristics of the originals. In Leuven Seminar it was decided that the consortium providers would follow the recommendations published in the technical guidelines of the USA Federal Agencies. The following tables are taken from the paper *Technical Guidelines for Digitising Cultural heritage Materials: Creation of Raster Image Master Files. FADGI, 2010.*

Negatives and transparencies

35 mm – 10x12	
Pixel array	4.000 pixels across long side
Resolution	2.800 ppi aprox. 35 mm to 800 ppi aprox. 10x12
Dimensions	Sized to match original
Bit Depth	8 bits for greyscale and 24 bits for RGB

10x12 – 20x25	
Pixel array	6.000 pixels across long side
Resolution	1.200 ppi 10x12 to 600 ppi aprox. 10x12
Dimensions	Sized to match original
Bit Depth	8 bits for greyscale and 24 bits for RGB

20x25 o larger	
Pixel array	8.000 pixels across long side
Resolution	800 ppi aprox. 20x25
Dimensions	Sized to match original
Bit Depth	8 bits for greyscale and 24 bits for RGB

Prints

20x25 or smaller	
Pixel array	4.000 pixels across long side
Resolution	Escaneo en función del tamaño de los originales: 400 ppi aprox. 20x25 a 800 ppi aprox 10x12
Dimensions	Sized to match original
Bit Depth	8 bits for greyscale and 24 bits for RGB

20x25 – 30x35	
Pixel array	6.000 pixels across long side
Resolution	Escaneo en función del tamaño de los originales: 600 ppi aprox. 20x25 a 430 ppi 30x35
Dimensions	Sized to match original
Bit Depth	8 bits for greyscale and 24 bits for RGB

30x25 or larger	
Pixel array	8.000 pixels across long side
Resolution	570 ppi aprox. 30x35
Dimensions	Sized to match original
Bit Depth	8 bits for greyscale and 24 bits for RGB

If this recommended image parameters can not be assumed, it would be accepted an alternative minimum. All partners are aligned to this minimum (see section 4).

Alternative minimum for all original formats (negatives, transparencies and prints)	
Pixel array	3.000 pixels across long side
Resolution	2.100 ppi 35 mm, 600 ppi 10x12 and 300 ppi 20x25
Dimensions	25 cm across long side for the 300 ppi ones
Bit Depth	8 bits for greyscale and 24 bits for RGB

3.2.3 Equipment for digitisation

The equipment to be used by the partners mainly depends on the photographs each one intends to digitise according to the recommended parameters accepted and proposed in Leuven Seminar. Format and condition of materials to be digitised influenced equipment choices. In this project, most originals are 2D, with the exception of cases and frames, characteristics of daguerreotypes and ambrotypes. The main digitisation challenges of photographs are polarity (negative-positive), media and color.

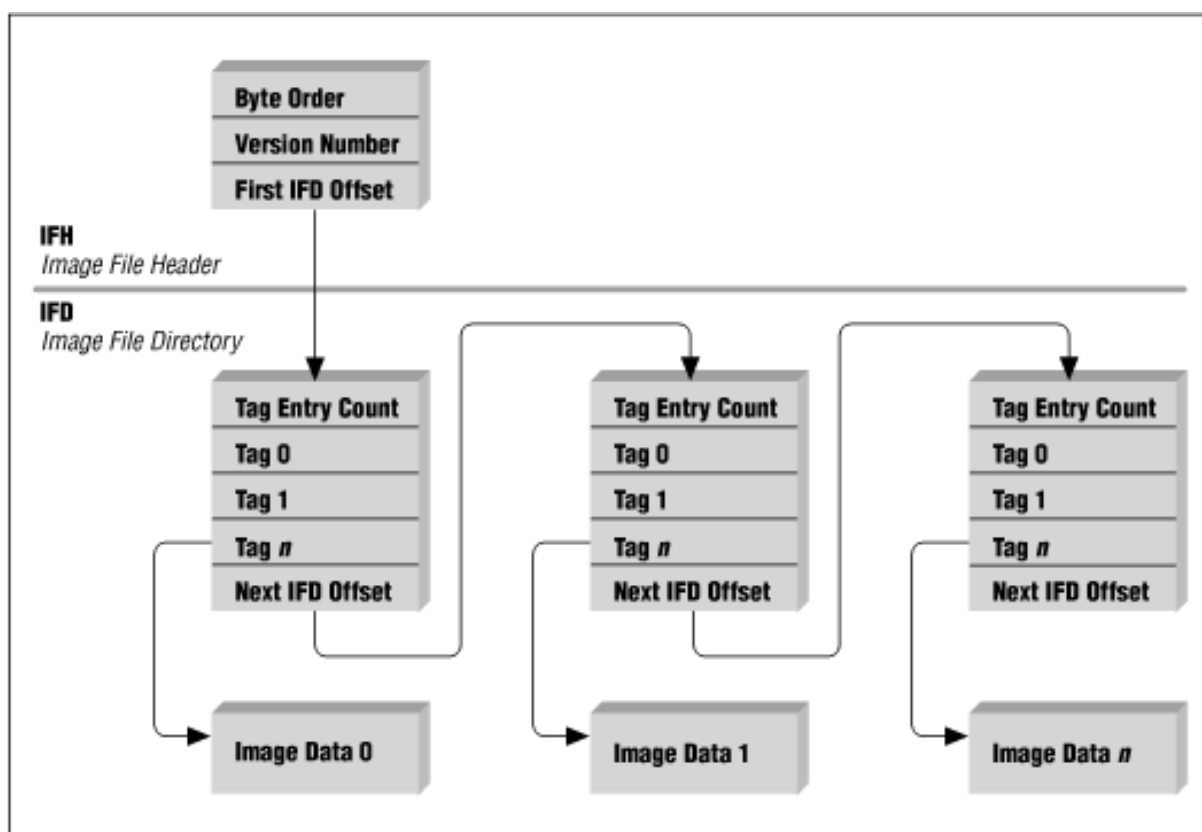
For specific information about each partner equipment, see section 4. Technical recommendations are given in section 6 of this document, as part of the factsheet 1.

3.2.4 Graphic formats

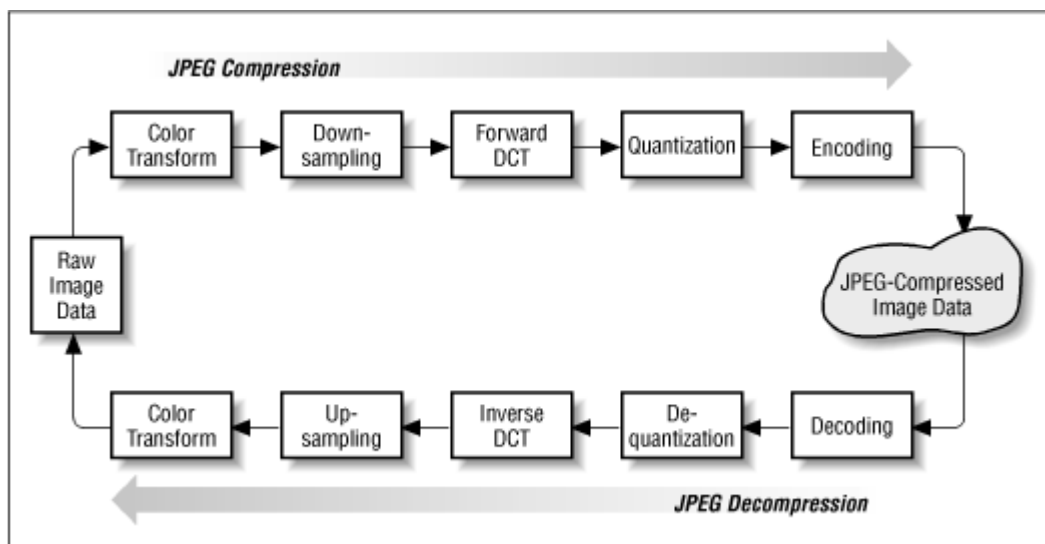
In a digitisation project of this nature, it is essential to choose the graphic formats for images masters. The final quality of the image and its preservation depends in part on the characteristics of these formats. Graphic formats are information structures that give significance to the bits of a digital resource. Thus, they allow its representation in a particular technology. The formats generally have a header, which contains the metadata and the data set of bitmap (for the information of each pixel forming the image). The level of metadata can vary depending on the format, but in all cases there is a minimum of information that identifies the version of the format and render the image in certain environments.

Partners in this project have chosen the following formats for preservation: TIFF, JPEG, PNG, proprietary RAW, DNG (see section 4). Therefore, we consider interesting to give a brief explanation for each one.

TIFF. Created by Aldus Corporation in 1986, version 6.0 is from 1992. It has become the de facto standard and it has added multiple features (extensions). However, its great value lies in the ability to describe uncompressed color images, which makes it one of the best candidates for image archives. The commitment to create a RAW standard format meant the creation of DNG.



JPEG. Its technical specifications define it as "a family of coding-decoding algorithms for continuous-tone images with data flow architecture for storing and describing the compressed data." Therefore, it is not a format but a compression system for continuous tone images. The main goal is to be highly compatible with all types of applications and environments. Under the common name of JPEG, the Joint Photographic Experts Group (JPEG) developed these formats: JPEG_EXIF, JFIF, JPEG "raw" and JPIP.



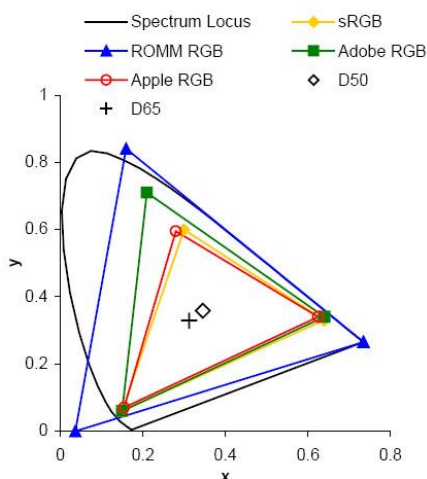
PNG. The Portable Network Graphics format is intended for use on-line and can be displayed progressively. Although it was initially designed to be used on the Internet, to replace the GIF, it had some compatibility problems with the search engines, which limited its expansion, However, these problems with search engines were solved in 2005. It was developed by the W3C, and the version 1.0. was presented in 1996. Version 1.2 is from 1999 and it was published as ISO in 2004.

RAW. These formats have the common feature of having the capacity to contain all information from the capture, before processing the final image. However, raw formats are proprietary, they don't publish technical specifications. They depend mainly on proprietary software, from the same manufacturer of the camera. For the adoption of these formats we should consider two main issues: first, the raw data can be processed after the capture, taking advantage of the software development; second, there are more than 200 raw formats and they all have a certain level of encryption of the information contained.

DNG. Within raw formats, DNG format deserves special attention. Although it is not a standard, it is the only publicly documented raw format. The problem with DNG is that it contains private tags and, therefore, the camera industry can use them without the need to publicly document them. So, DNG can also be a not documented format. Therefore, the option of converting from proprietary raw to DNG (accepting it as a preservation format) it is not completely reliable. It should also be noted that the conversion from other formats can lead to partial loss of information.

3.2.5 Quality control

The quality control aims to check the digitisation process and the result of the digitised images from the selected reference standards and recommended parameters guide. An inspection of master image files should be incorporated into the project workflow. These controls are the sole responsibility of each project partner.



The quality control is basically over the equipment: monitors, cameras, scanners, aiming to optimize the performance; and over the images. In the case of images, it should be an inspection of 100% of the master images rather than a random. Quality is evaluated through visual inspection and through imaging software.

The main elements to assess the quality of the images in the digitising process are the following ones:

File

- Files open and display
- File name is correct
- Proper format and compression
- Proper spatial resolution and bit depth
- Color mode and color profile

Original

- Correct dimensions (image not cropped)
- Correct resolution
- Orientation (image not rotated, not reversed)
- Proportions/Distortion

Digital image

- Tonal reproduction
- Brightness
- Contrast
- Color reproduction
- Artifacts detection

3.3 LOCAL CATALOGUING

3.3.1 Local cataloguing

In the survey done in WP2 the content providers informed about standards used for local cataloguing and they assessed the difficulties to publish local metadata in Europeana. In WP3, the production of new

catalogue records is required in case they don't exist and it is also necessary a work of adaption and improvement of the already existing local catalogues.

In this section of the document, we include some information about embedded descriptive metadata as they are considered very relevant in the business of photography, and because they coexist with technical metadata inside the digital object. We also include some information about software for managing photographic collections, in which cataloguing is one of the main functions.

3.3.2 Metadata

The main metadata for cataloguing images are IPTC and XMP.

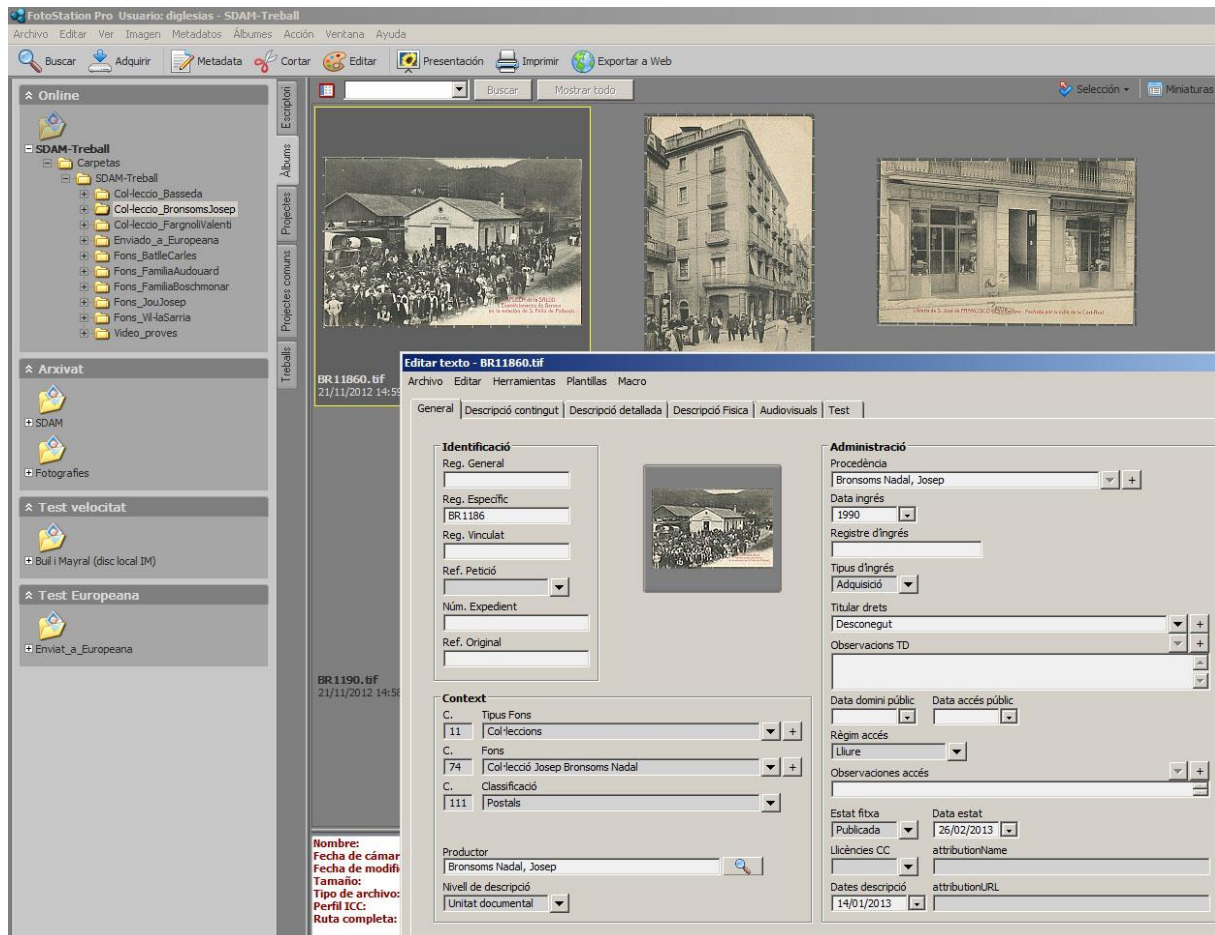
IPTC – IIM (International Press Telecommunication Council). IIM (Information Interchange Model) is a wrapper format for the transmission of text's and image's news created by a consortium of news agencies. The IPTC headlines were created from the IIM. Afterwards this technology was substituted by the XMP and two new schemes were created: first the IPTC Core and then the IPTC Extension (both XMP exclusive).

XMP (Adobe's Extensive Metadata Platform). It is a standard for the creation, processing and exchanging of metadata. It offers a labeling technology that allows the creation of new metadata and their insertion in the same files. It refers to XML data, stored using a subset of W3C Resource Description Framework (RDF). This becomes specially interesting for the computer industry, since the software and the devices can include self information in the same files. It is also important for the cultural sector since it allows the possibility of including self and appropriately encoded metadata into the XMP containers. The XMP defines four blocks of main metadata, the DC and three specifics of XMP. It also includes the specialized blocks: Adobe PDF, Photoshop, Camera Raw and Exif. The inclusion of the DC in the main properties turns it into a technology of great utility for the communication between different platforms.

3.3.3 Software for collections management

A key aspect of a digitisation project is the ability to have the right tools for files management. Every institution or enterprise needs a system that integrates most of the software required to attend the tasks that are derived from the overall management. These tasks can include: ingest digital files; move, copy, delete and rename files; the rendering of standard formats: TIFF, JPEG, PNG, RAW; cataloging and management of metadata; format migration; interoperability; backups; image editing; browsing images; search and retrieval; etc.

This list is not exhaustive, it could include other, but it gives an idea about software requirements from the content providers of this project. Therefore, and due to the interest of knowing management software of each partner, detailed information is provided in section 4. Report this aspect may encourage the exchange of experiences on specific software inside and outside the project.



3.4 TECHNICAL METADATA

3.4.1 Technical metadata

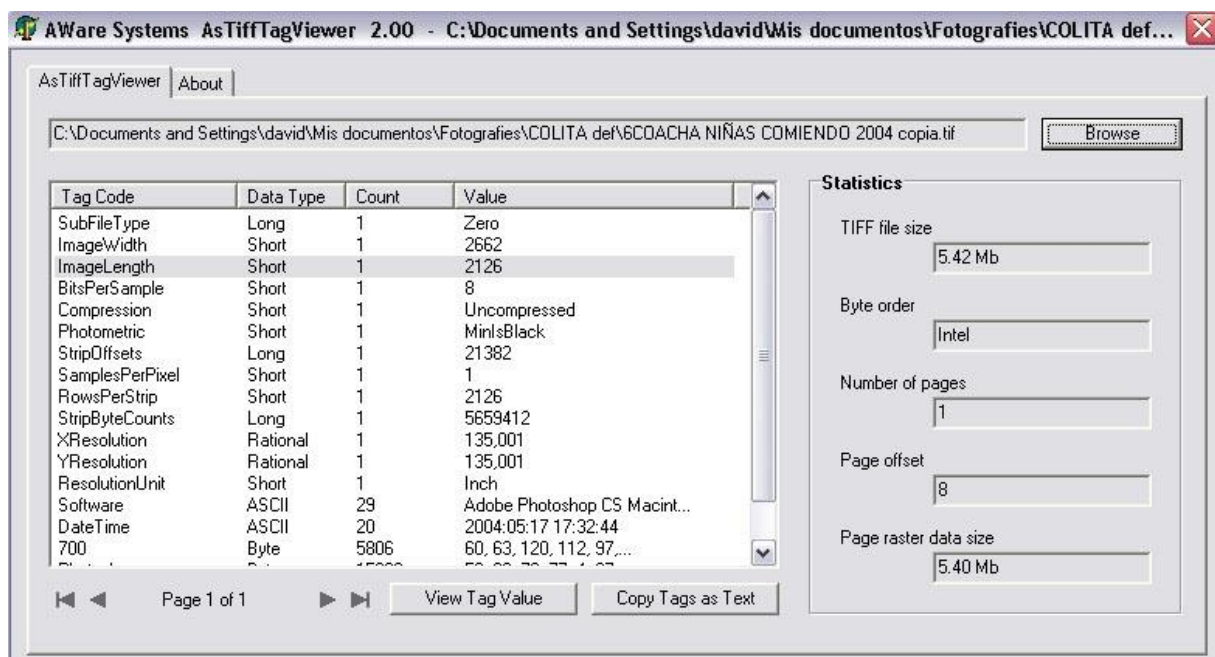
Technical metadata are automatically captured and they are usually embedded in the graphic file. These metadata ensure that an image can be rendered accurately. They also help to support image quality assessment, and they inform about provenance of the production and of technical issues of the capture (devices, software, etc.). They are very useful to verify standard procedures for digitisation and also for quality control.

To ensure proper rendering of images, the main data is at pixel level. These values are the ones that determine the tone of the image and also the color. The assignment to this value is the key for the subsequent image representation, since a 16 bits encoding, for instance, offers a higher precision and above all more intervention options in the image processing than an 8 bits encoding. Since we are talking about millions of pixels, the code is large and hardly comprehensible as a whole. That is why a set of data that make it comprehensible for the machines is needed; these metadata determine the image's technical characteristics and allow its representation in different environments. The main metadata are the ones of graphic format (TIFF, JPEG, etc.), its encoding as well as its configuration, mainly the spatial resolution and the bit resolution. The metadata that allow the location of the different pixel values in the map of bits, the file size and the ones that refer to the color management are also indispensable. A lot of these metadata are determined by the election of the file format, since this establishes and delimitates, in large part, the image technical characteristics.

Other technical metadata allow us to know about the capture issues. These are metadata referring to the capture's technical conditions as well as its processing, since, with the exception of RAW files, the processing is made automatic according to the camera configuration. The basic capture metadata are the exposure time, the F number, the ISO speed, the color temperature and the use of flash. Among the basic processing data we find the white balance, the contrast, the saturation, and the sharpness. We also have metadata about the date and time of the capture. Additionally, and depending on the machines, we will count on the geographical information that integrated GPS systems (when available). They are also important the metadata about the devices and the software that have been used, since the capture's final result is conditioned by their characteristics. The main metadata are the ones referred to the identification of the manufacturers of the camera, the scanner and the lens, and of the specific devices, including the serial numbers and the software used for the images' capture and edition, specifying the version. In the case of RAW formats, a large part of these metadata is preserved in an attached file, which allows the preservation of the integrity of the capture's data without any type of processing.

Every master file of this project contains most of this technical metadata as they are created automatically and as they are a standard from the industry of camera and scanners. They can also contain metadata concerning actions that have been taken in the digital image processing. It refers to the registering of the changes in relation to an original image fully processed, the capture's one, from which one creates a derived file for the archive. Among the most common, we may find the actions referring to the file format conversion, cut, edition, copy, masks' application, resolutions changes, etc.

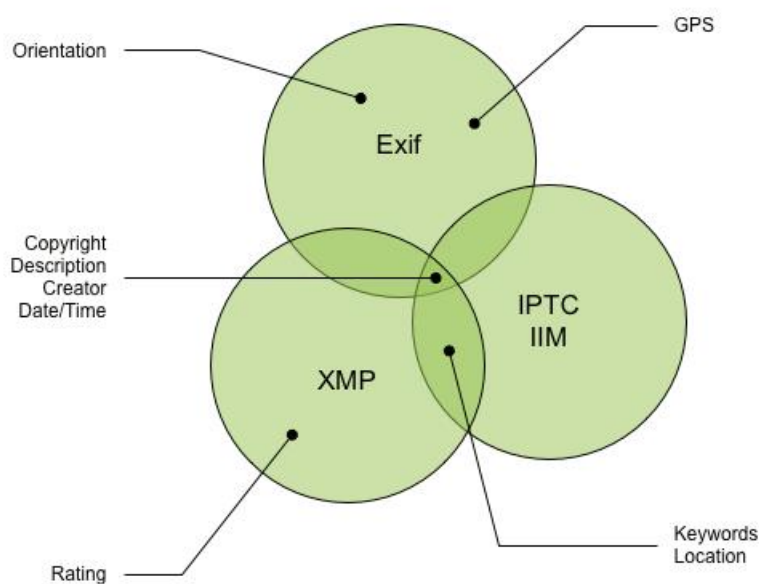
It is completely relevant to explain with some detail the kind of information we deal with the digital masters in order to support image quality assessment and to support the technical coordination of the project.



TIFF technical metadata.

3.4.2 Metadata standards

Most of these technical metadata are included in EXIF (Exchangeable Image File Format), a standard from the JEITA (Japan Electronics and Information Technology Industries Association) and the CIPA (Camera and Imaging Products Association) developed from the need to be able to communicate the images created by the digital cameras with other devices. This need brought to the creation of the DCF (Design Rule for Camera File System) specification which establishes the rules for the recording, the reading and the support of image files and of other related files, and which defines a subset of EXIF where some of the properties are optional in EXIF but compulsory in the DCF. The EXIF, in fact, is a graphic format that presents a structure in accordance with the JPEG format for compressed images and in accordance with the TIFF format for the images without compression. In both cases, the EXIF describes a set of TIFF labels, according to the format described in version 6.0, and for those information referred to a camera that are not considered in the TIFF, it includes metadata in a self directory, that is differentiated from the TIFF metadata directory as well as from the GPS metadata directory.



Interoperability of metadata standards. (Guidelines for handling metadata. Metadata Working Group. 2010)

4 DIGITISATION PROGRESS

In this section of the document we present the results obtained so far. According to a preliminary internal content checking verification process among the content providers, it has turned out that so far 228.878 images have been already digitised and 206.439 images have been catalogued. However, not all these images are on-line in each partner website, because in some cases, local cataloguing is not finished and some metadata are missing. There are **158.410 images on-line**. This is the digitisation production that can be checked image by image, even if there are some particularities, already explained in each content provider datasheet.

Since the project aims to publish 100.000 images to Europeana by end of year 2 (January 2014), it is safe to assume that the above figure is perfectly in line to the project time table. And also, considering that the digitisation production should be of 250.000 images by end of year two, we can state that the work progress is all right. At this point, we should mention the fact that in reality the first 3 months of the project have been focused on the methodologies and best practices of the entire digitisation workflow, so partners have started effectively to digitise and index content in end April-early May 2012.

	Month 12 (foresight)	Month 18	Month 24 (foresight)	Month 27 (foresight)	Month 36 (foresight)
Digitisation	50.000	228.878	250.000	430.000	438.024
Digitisation and local cataloguing		206.439	100.000	430.000	
Images on-line (partner's website)		158.410			
Europeana			100.000		438.024

The datasheets contain detailed information concerning the digitisation work for each content provider done until the month 18 of the project and that can be checked on-line. In addition to the figures and links, the datasheets collect technical information about equipment, software, and images. It helps to have an idea about the priority that the Consortium has on image quality. This additional information has already been explained in the previous sections.

4.1 ALINARI 24 ORE

4.1.1 Fond or collection digitised

Collection coming from different historical photo collections of Alinari like Alinari, Brogi, Anderson and so on (focus on the traditional corpus of Alinari main collections). Mainly Italian material with photographs taken from 1839 until 1939. Main subjects are masterpieces of history of photography about portrait of important people, architecture, city scape, historical events, still life, landscape, general sceneries.

4.1.2 Number of digitised images for Europeana and URL to access them

12.319 images.

These images are already in MINT (since November 2012). An image example:
<http://images.alinari.it/img/170/VBA/VBA-S-000392-0045.jpg>

The images are located on Alinari's servers and will be accessible from Europeana portal.

4.1.3 Number of source objects digitised

Typically it is 1 only for each subject

4.1.4 Originals

Carriers	glass, cotton paper coated with emulsion egg white.
Dimensions	Typical dimensions range from carte de visite up to 21x27cm.
Processes	Main photographic processes represented are: albumen prints, gelatin silver prints, some glass plate negatives, Gelatin DOP.

4.1.5 Digital masters

Resolution	Max: 4000x3000 pixels
Bits per sample	8 bits
Color	Adobe RGB
File format	JPEG, max quality (12) – least compression

4.1.6 Digitising equipment and software

Cameras

Leaf/Mamiya Aptus II 12 80 megapixels digital camera back used for all work. Reproduction work done with AF Mamiya 80 (macro) and 120mm lenses. Typical capture settings: aperture F/9; shutter speed: 1/8 second, Hedler DX15 cold lights with a Cambo repro system. System used also for glass plate negatives and films. Eizo 24 inches monitors and MacBook Pro 13 inches with OSX 10.6.8, 4GB ram, for image acquisition. Postprocessing done on MacPro 16GB ram.

Software for capture

PhaseOne CaptureOne 7.x scanning software. Post processing in Adobe Photoshop CS3

Software for management

PhaseOne Media Pro and Microsoft SQL server with IIS for internal DAM. Color Checker X.Rite for color calibration

4.1.7 File names.

Example of internal file name: ACA-F-011535-0000.jpg (first 3 letter identify collection name, then we have letter to identify of single or part of a group of images, last part the image ID and file extension).

4.2 FONDAZIONE ALINARI

4.2.1 Fond or collection digitised

Edouard Delessert, Giacomo Caneva, Robert Macpherson, Eugène Piot, John Brompton Philpot, Alinari brothers, James Anderson, Carlo Naya, Domenico Bresolin, Moritz Lotze, Wilhelm von Gloeden,, Domenico Peretti Griva, Giulio Parisio, Wanda Wulz

The selections will have the aim of providing a contribution in terms of history of Italian photography. Coverage of the most important themes and iconographic areas that are typical of the photographic production in Italy selection of images in order to provide an in depth insight of Italian photography between 1839 and 1939, including where possible for each of the most important photographers several variants for each subject.

4.2.2 Number of digitised images for Europeana and URL to access them

10.000 images.

These images will be in MINT during the project's time-frame. An image example: <http://images.alinari.it/img/170/ACA/ACA-F-011535-0000.jpg>

The images are located on Alinari's servers and will be accessible from Europeana portal.

4.2.3 Number of source objects digitised

Typically it is 1 only for each subject.

4.2.4 Originals

Carriers	Mainly: glass, cotton paper coated with emulsion egg white.
Dimensions	Typical dimensions range from carte de visit up to 21x27cm.
Processes	Main photographic processes represented are: albumen prints, gelatin silver prints, some glass plate negatives, Gelatin DOP.

4.2.5 Digital masters

Resolution	Max: 4000x3000 pixels
Bits per sample	8 bits
Color	Adobe RGB98
File format	JPEG, max quality (12) – least compression

4.2.6 Digitising equipment and software

Cameras

Leaf/Mamiya Aptus II 12 80 megapixels digital camera back used for all work. Reproduction work done with AF Mamiya 80 (macro) and 120mm lenses. Typical capture settings: aperture F/9; shutter speed: 1/8 second, Hedler DX15 cold lights with a Cambo repro system. System used also for glass plate negatives and films. Eizo 24 inches monitors and MacBook Pro 13 inches with OSX 10.6.8, 4GB ram, for image acquisition. Postprocessing done on MacPro 16GB ram.

Software for capture

PhaseOne CaptureOne 7.x scanning software. Post processing in Adobe Photoshop CS3.

Software for management

PhaseOne Media Pro and Microsoft SQL server with IIS for internal DAM. Color Cecker X.Rite for color calibration.

4.2.7 File names

Example of internal file name: ACA-F-011535-0000.jpg (first 3 letter identify collection name, then we have letter to identify of single or part of a group of images, last part the image ID and file extension).

4.3 TOPFOTO

4.3.1 Fond or collection digitised.

Central News - The collection was the picture library of the news agency of the same name est. 1870. It has world coverage and includes many masterpiece portraits of Royals and famous personalities from the era.

Alfieri - Was a London based agency that supplied images to the weekly press and magazines with a specific focus on society and London life during this fascinating period between the wars.

John Topham - John Topham's legacy, the founding collection of TopFoto image library, is over 120.000 negatives of superb social history capturing the disappearance of rural life as the South East of England

began to disappear under a swathe of concrete. The Arts Council of England funded a touring exhibition of his work, Memory Lane, curated by the Impressions Gallery in York, and his work is significant to the Imperial War Museum and the Museum of Rural Life, amongst others. Topham began as a policeman in the East End of London in the 1920s. When he sold his first picture for the equivalent of a week's wage, he quit the Force and from 1931-1973 he photographed, as he put it, the "little things of life – the way it really was".

4.3.2 Number of digitised images for Europeana and URL to access them

30.908 images.

Central News – 14.689 images.

[http://www.topfoto.co.uk/imageflows2/?s={"s":{"0":{"term":"cn*","oper":"AND"}}, "ci":{"eu":"eu"}}](http://www.topfoto.co.uk/imageflows2/?s={)

Alfieri – 6391 images.

[http://www.topfoto.co.uk/imageflows2/?s={"s":{"1372243164934":{"term":"alfieri","oper":"AND"}}, "ci":{"eu":"eu"}}](http://www.topfoto.co.uk/imageflows2/?s={)

John Topham – 9.828 images.

[http://www.topfoto.co.uk/imageflows2/?s={"s":{"1372243225209":{"term":"John%20Topham","oper":"AND"}}, "ci":{"eu":"eu"}}](http://www.topfoto.co.uk/imageflows2/?s={)

4.3.3 Number of source objects digitised

Very few additional source objects were digitised. We have used the original negative bags to add the metadata.

4.3.4 Originals

Carriers	Glass plate
Dimensions	12cm x 9cm (Quarter plate)
Processes	Silver gelatin dry glass plate negatives

4.3.5 Digital masters

Resolution	7360 x 5562
Bits per sample	16 bits
Color	RGB
File format	TIFF_UNC 6.0. We keep the MOS lossless compression 56 MB for masters). For website download and access we use high compression jpg files.

4.3.6 Digitising equipment and software

Cameras

We are digitising all the images with the Leaf Aptus-II and Mamiya 120mm/F4 AF macro D lens with backlight provided by a Kaiser Prolite Basic 2 (50 x 30cm).

Software for capture

Capture One for image capture and processing.

Software for management

Our in-house DAM system is Fotoware (Colour factory, Index Manager, and Fotostation) Fotostation is essential for adding the metadata. Our web system is custom developed and powered by Imageflows.

4.3.7 File names

The images for the Europeana project are all prefixed EU followed by a 6 digit number. The initial name is the unique negative number from our archive which is retained in the metadata.

4.4 IMAGNO

4.4.1 Fond or collection digitised

The Schostal Agency. The “Agentur Schostal, Paris – Vienna – Milano” was one of the major European photo services and press agencies active between ca. 1925 and 1939. It supplied some of the most important art, fashion and glamour magazines of the period in Germany, Europe and U. S. A. which were then sufficiently advanced in taste to present photography also as an art form.

Christian Brandstätter Collection. The publisher Dr. Christian Brandstätter is in possession of one of the world’s most interesting private collections of photography, commercial art and arts and crafts with a special focus on photography of the 19th and 20th century.

Franz Hubmann Collection. Franz Hubmann (1914-2007) was one of the most important photographers in Austria after 1945. He was also one of the first collectors of historic photography and started in the early 1960s to work intensively on the photographic legacy of Austria and its former imperial territories.

4.4.2 Number of digitised images for Europeana and URL to access them

10.200 images.

www.imagno.com – Keyword “Europeana”

4.4.3 Number of source objects digitised

10.200 objects.

4.4.4 Originals

Carriers	Paper, glass
Dimensions	Carte de visite, Post cards, Stereographic prints, prints up to 18x24
Processes	Albumen prints, Silver gelatin prints, DOP, POP, Glass slides, handcolored lantern slides

4.4.5 Digital masters

Resolution	ca. 3500x5400px (300 dpi)
Bits per sample	16 bits
Color	eci RGB V2; Gray Gamma 2.2
File format	TIFF, no compression

4.4.6 Digitising equipment and software

Scanners

Scanner Epson Perfection 4990, Epson Perfection V700 for the prints of the Schostal Collection and Glass Plates from the Franz Hubmann Collection.

Cameras

Canon D600 for Carte des visite and Post cards from the Christian Brandstätter Collection and the Franz Hubmann Collection.

Software for capture

Photoshop, Picturemaxx database

Software for management

Picturemaxx database

4.4.7 File names

No specific politics for file naming.

4.5 PARISIENNE DE PHOTOGRAPHIE

4.5.1 Fond or collection digitised

Digitisation & local cataloguing (but not full metadata and vocabulary enrichment) has been completed on the two following sub-collections :

Press photography by Maurice-Louis Branger (1884-1950): close to 30 years – from 1900 to 1927- of Parisian historical, political, social and cultural chronicles as well as some major world events. All glass plates have been digitised, 3.000 film negatives remain to be catalogued & digitised (will be done during summer 2013), of which 1.000 will be selected for Europeana.

Portraits by Boris Lipnitzki: personalities of the French artistic world of the 1920s and 30s (painters, writers, performers, fashion designers, musicians, etc...), by Russian born photographer Boris Lipnitzki (1887-1971).

Cataloguing & digitisation started in June on a sub-corpus of the late 19th Century travel & ethnographic photography collection (panoramic glass plates by Leon, Levy & sons).

4.5.2 Number of digitised images for Europeana and URL to access them

8.117 images.

Maurice Louis Branger : 9.000 (selected) / 7.237 published on www.roger-viollet.fr

Boris Lipnitzki : 5.000 (selected) / 879 published on www.roger-viollet.fr

Panoramic photographs : 217 / 1 published on www.roger-viollet.fr

4.5.3 Number of source objects digitised

Maurice Louis Branger : 28.757 (digitisation glass plates completed, 3.000 film negatives left)

Boris Lipnitzki : 17.965 (digitisation complete)

Panoramic photographs:217

4.5.4 Originals

Carriers glass plate, acetate, nitrate. (Branger : 90% glass plate negatives, 10% nitrate film negative - Lipnitzki : acetate & nitrate film negatives. Travel photograph: various glass plates negatives & positives)

Dimensions 6x6, 9x12, 13x18, panoramic. (Branger : mostly 13X18 and 9X12)

Lipnitzki : mostly 6X6 - Travel photograph : various formats (digitisation started on 16x42 panoramic plates)

Processes Mostly gelatin silver bromide

4.5.5 Digital masters

Resolution	4500X6500 pixels, 4500X4500 pixels
Bits per sample	8 bits
Color	RGB
File format	TIFF_LZW (storage format). Raw format Hasselblad (not stored)

4.5.6 Digitising equipment and software

Cameras

Camera + digital back : H4D40 (Hasselblad)

Lens: 120mm Hasselblad

Software for capture

PHOCUS (camera control & development)

Photoshop CS6 (for retouching)

Software for management

Our photo library management system has been developed in-house using a software product from Canadian firm Dorotech.

It is SQL-server (version 2005) based with some sections in MySQL.

4.5.7 File names.

Prior to integration in the database, the file names are based on the inventory number of the analog object, which is typically a trigram designating the collection (BRA for Branger, LIP for Lipnitzki, etc...) and then the object number in the catalogue or the reportage number followed by the image number in the reportage. Once integrated in the database, file names (which we call "image numbers") are automatically generated by the system based on the digitisation batch the images were processed in.

4.6 ICCU/SGI

4.6.1 Fond or collection digitised

The collections that have been digitised during this period, are taken from the Historic Fond (10.821 images) and Giotto Dainelli Fond (4.193 images) preserved in the Photographic Archive. Photographs document places, people and landscapes of almost all region on earth. Africa is the continent most represented, many images refer to Libya, Morocco, Tunisia, Egypt, Horn of Africa, Democratic Republic of the Congo. Numerous photographs concerned Asia, particularly Cambodia, Thailand, Indonesia, China, Japan, Pakistan and India. To a lesser extent, but equally well represented, is the American continent. For North America, the photographs by Thimothy H. O'Sullivan and William Bell show the American West and its unspoiled landscapes. The collections of Ermanno Stradelli and Guido Boggiani

related to their ethno-anthropological missions in the Amazon and in the tropical regions of the Chaco. There are also photographs about Australia and from polar explorations by Knud Rasmussen among the Eskimos and by Nils Otto Gustaf Nordenskjöld in Antarctica. Many photographs about Europe, especially documenting the beauty of the landscape, damage due to natural disasters and the construction of major public works such as the Simplon Pass.

As communicated in April, the whole fond has been divided into 7 sets to track the digitisation activities that do not reflect the plenty of micro-fonds that made up the whole archives heritage under digitisation.

4.6.2 Number of digitised images for Europeana and URL to access them

15.014 images (10.821 from Historic Fond and 4.193 from Giotto Dainelli Fond)

We can't provide the URL yet because the website is under construction. The content for EuropeanaPhotography won't be published in the current web pages of the archives of the Società Geografica Italiana, but in a dedicated site that will be linked from the main one of SGI. This site is currently implementing images but it still has a provisional URL.

Over the 15.014 digitized images, about 12.000 are already on line on SGI's servers, but they are going to be moved to the new website at soonest.

4.6.3 Number of source objects digitised

The number of source objects digitised coincides with the number of digital images.

4.6.4 Originals

Carriers	fiber-based (FB or Baryta) paper, RC paper, photographic film and photographic plates
Dimensions	carte visite, postcard, 9x12, 13x18, 18x24
Processes	albumen, gelatin DOP, <u>silver bromide</u> , <u>silver chloride</u> , cyanotype, aristotype

4.6.5 Digital masters

Resolution	300-600 dpi (depending on the original dimensions)
Bits per sample	8 bits (24 bits RGB);
Color	3 sRGB IEC61996-2.1
File format	TIFF version 6, uncompressed files

4.6.6 Digitising equipment and software

Scanners

Epson Perfection 750 Pro

Cameras

Nikon E990; Nikon D1x; Nikon D80

Flatbed scanner and cameras are the digitising equipment employed for image capture, according to the typology of original documents and their state of preservation.

Software for capture

Adobe Photoshop 7.0; PictureProject 1.7.0.W; Adobe Photoshop CS4

Software for management

Museo&Web Content Management System (open source software distributed by the Italian Ministry of Cultural Heritage, Activities and Tourism).

4.6.7 File names.

The name assigned to the digital resource reflects the physical location that the photographic document occupies in our Archive; at the same time, it refers the belonging of the single photograph at the collection and at the Fond.

4.7 POLFOTO

4.7.1 Fond or collection digitised

The Holger Damgaard collection – on-going

4.7.2 Number of digitised images for Europeana and URL to access them

8.127 images.

By July 2013 a total of 25.800 images have been digitised, though only 8.127 have been published on our website <http://www.polfoto.dk/Pages/digitaliseringsprojekt.aspx> - as we do not publish them until they have been indexed. You need a valid e-mail to view the images on our website.

4.7.3 Number of source objects digitised

51.600 including prints containing metadata.

4.7.4 Originals

Carriers	Glass Plates
Dimensions	9x12 and 10x15 cm.
Processes	Mostly silver gelatin

4.7.5 Digital masters

Resolution	300ppi
Bits per sample	8bit
Color	sRGB
File format	TIFF

4.7.6 Digitising equipment and software

Cameras

Phase One P40+ Refurb
Phase One 645 DF Camera
Phase One 120 mm F4 Macro MF Digital lens.

Software for capture

Capture One and Photoshop.

Software for management

NICA – an image database and library system developed for handling, indexing and retrieving large image collections.

4.7.7 File names.

No specific criteria are applied.

4.8 CRDI – GIRONA CITY COUNCIL

4.8.1 Fond or collection digitised

Fond Josep Jou Parés. This fond holds the photographs created by Josep Jou, a government employee that opened a portrait gallery in Girona, 1920-1944. It contains those images that were made in a portrait gallery: individual, groups, families, etc. There are also some reports about public Works: construction of new bridges, the market building, etc. Dates: 1900 – 1939.

Collection of family photography. The collection includes the main photographs created by non professional photographers in Girona, all wealthy people that became interested for the new art: Lleó

Audouard, dentist; Joan Carrera, sculptor; Daniel Boschmonar, economist; Alberto Maroto, statistic; Carles Batlle, industrial. Dates: 1900 – 1939.

Fond Vil·la de Sarrià. The images of this fond come from an amateur photographer whose identity is unknown. They were taken in the town of Sarrià, few years before being integrated to Barcelona (in 1921). Nowadays, Sarrià is a Barcelona neighborhood. The images represent the daily life of the inhabitants, the religious events, the festivities, etc. Dates: 1910-1920.

Collection Josep Bronsoms Nadal. Postcard collection of Girona. The postcards were published at the beginnings of this popular commercial format. There are complete series from most of the editors and authors that commercialized those postcards. Dates: 1877 – 1939.

Collection Valentí Fargnoli. Valentí Fargnoli is the most important photographer in Girona at the beginning of the XX century. He worked as an itinerant photographer, taking pictures of landscapes and monuments around Catalonia. The main subject is always the historical heritage: churches, artistic objects, old buildings, etc. 1902-1939.

Fond Foto Lux. Foto Lux was a commercial gallery in Girona ran by Joan Pereferrer and Joan Barber. The fond reflect its activity since 1915. However, there is also an important amount of images that documents the urban evolution of the city. Dates: 1915 – 1939.

Fond Fotografia Unal. Fotografia Unal was a commercial gallery in Girona ran by Unal family. It contains those images that were made in a portrait gallery: individual, groups, families, etc. Aside of portraits there are very interesting images showing the urban evolution of Girona, Barcelona and other cities and towns in Catalonia. Dates: 1867 – 1939.

4.8.2 Number of digitised images for Europeana and URL to access them

11.122 images.

Fond Josep Jou. 1.308 photographs.

[http://sgdap.girona.cat/sdam/Grid.fwx?search=\(IPTC608_contains_\(Fons_Josep_Jou_i_Pares\)\)_AND_\(IPTC501_contains_\(0~~1939\)\)](http://sgdap.girona.cat/sdam/Grid.fwx?search=(IPTC608_contains_(Fons_Josep_Jou_i_Pares))_AND_(IPTC501_contains_(0~~1939)))

Collection of family photography (Audouard, Carrera, Boschmonar, Maroto, Batlle). 2.633 photographs. [http://sgdap.girona.cat/sdam/Grid.fwx?search=\(IPTC608_contains_\(Fons_Familia_Audouard\)\)_OR_\(IPTC608_contains_\(Fons_Familia_Carrera\)\)_OR_\(IPTC608_contains_\(Fons_Familia_Boschmonar\)\)_OR_\(IPTC608_contains_\(Fons_Alberto_Maroto_Miro\)\)_OR_\(IPTC608_contains_\(Fons_Carles_Batlle_i_Ensesa\)\)_AND_\(IPTC501_contains_\(0~~1939\)\)](http://sgdap.girona.cat/sdam/Grid.fwx?search=(IPTC608_contains_(Fons_Familia_Audouard))_OR_(IPTC608_contains_(Fons_Familia_Carrera))_OR_(IPTC608_contains_(Fons_Familia_Boschmonar))_OR_(IPTC608_contains_(Fons_Alberto_Maroto_Miro))_OR_(IPTC608_contains_(Fons_Carles_Batlle_i_Ensesa))_AND_(IPTC501_contains_(0~~1939)))

Fond Vil·la de Sarrià. 588 photographs.

[http://sgdap.girona.cat/sdam/Grid.fwx?search=\(FQYFP_contains_\(qFons_Vil-laSarria\)\)](http://sgdap.girona.cat/sdam/Grid.fwx?search=(FQYFP_contains_(qFons_Vil-laSarria)))

Collection Josep Bronsoms. 1.211 photographs.

[http://sgdap.girona.cat/sdam/Grid.fwx?search=\(IPTC608 contains \(Col·lecci333 Josep Bronsoms Nadal\)\) AND \(IPTC501 contains \(0~1939\)\) AND \(IPTC080 contains \(not Roisin\)\)](http://sgdap.girona.cat/sdam/Grid.fwx?search=(IPTC608%20contains%20(Col·lecci333%20Josep%20Bronsoms%20Nadal))%20AND%20(IPTC501%20contains%20(0~1939))%20AND%20(IPTC080%20contains%20(not%20Roisin)))

Collection Valentí Fargnoli. 1.101 photographs.

[http://sgdap.girona.cat/sdam/Grid.fwx?search=\(IPTC608 contains \(Col·lecci333 Valent333 Fargnoli\)\) AND \(IPTC501 contains \(0~1939\)\)](http://sgdap.girona.cat/sdam/Grid.fwx?search=(IPTC608%20contains%20(Col·lecci333%20Valent333%20Fargnoli))%20AND%20(IPTC501%20contains%20(0~1939)))

Fond Foto Lux. 987 photographs. (This fond is in the process of digitising and cataloguing)

[http://sgdap.girona.cat/sdam/Grid.fwx?search=\(IPTC608 contains \(Fons Foto Lux\)\)](http://sgdap.girona.cat/sdam/Grid.fwx?search=(IPTC608%20contains%20(Fons%20Foto%20Lux)))

Fond Fotografia Unal. 3.294 photographs. (This fond is in the process of digitising and cataloguing)

[http://sgdap.girona.cat/sdam/Grid.fwx?search=\(IPTC608 contains \(Fons Fotografia Unal\)\)](http://sgdap.girona.cat/sdam/Grid.fwx?search=(IPTC608%20contains%20(Fons%20Fotografia%20Unal)))

There will be a final review before uploading these images to MINT. In consequence, few images may not be selected for publication at Europeana website.

4.8.3 Number of source objects digitised

The fonds and collections digitised can include some photographs dated after 1939. Sometimes we need to digitise them to analyze the visual content and decide the date. So, we digitised some more images that have been excluded for this project.

4.8.4 Originals

Carriers	Glass plates, cellulose nitrate film, cellulose acetate film, paper
Dimensions	Prints: 9x12/ 9x13/ 9 x14/ 10x15/13x18/ 18x24/ 24x30/30x40/ 40x50/ 50x60 /carte de visite/cabinet/postcard/stereoscopic /other size Negatives/transparancies: 6x9/ 9x12/10x15/ 13x18/18x24/ stereoscopic/other size
Processes	Albumen print, Gelatin DOP, Aristotypes, Collotypes, Letterpress halftones, Photogravures.

4.8.5 Digital masters

Resolution	3500x2500 pixels, 7500x5300 pixels (stereoscopic)
Bits per sample	16 bits

Color Adobe RGB

File format TIFF_UNC 6.0, IIQ (Phase One proprietary RAW format)

4.8.6 Digitising equipment and software

Camera

Camera: PhaseOne 645DF

Digital Back: PhaseOne P40+

Lens: PhaseOne 120mm AF Macro f/4

Software for capture

Capture One 6 and Photoshop CS5.1 (for some editing works).

Software for management

Fotoware (Fotostation, IndexManager and Fotoweb)

4.8.7 File names

We have a unique identifier for all records of the photographic services. It is a sequential numbering string. Some images still keep the old file naming system which included meaningful metadata. All them will be changed to the new system.

4.9 GENERALITAT DE CATALUNYA

4.9.1 Fonds or collections digitised

ANC

Fond Antoni Esplugas

10.600 glass plates and 300 positive. Material recovered from the rest of the collection of the author and the collections of individuals. Antoni Esplugas founded one of the first photographic companies in Catalonia. Among the masterpieces, it features a large collection of portraits by artists of the time (singers, dancers, bullfighters), which reveal the entertainment world (music, theatre, fencing, bulls...) of a Barcelona momentous period: the end of the XIX century and first third of the XX century.

Fond Brangulí (fotògrafs)

40.000 glass negatives, plastic negatives 500.000 b/w 3.500 and 60.000 color positive. The Brangulís were an important family of photojournalists from Barcelona. Their images illustrate the life and the changes in society, culture, economy and Catalan politics (1899-1939). The richness, quality and good condition of the images make them one of the finest photographic collections in Catalonia.

Fond Gabriel Casas i Galobardes

More than 20.000 images. *Naughty-boys smoking, Barcelona s.d. Tram number 12. Barcelona 1930 – 1935.* Until the end of the Civil War was devoted especially to portrait photography and photojournalism and to institutional. Later, after having been disqualified to practice photojournalism, he focused his work on industrial photography, interior design and portraits.

Fond Josep Maria Sagarra i Plana

More than 24.000 negatives and 1.300 positive remains of what once was the big Sagarra fond. *Catalonia square after Telephone company events in Barcelona. July 19th , 1936 Cars burning at St. James square in Barcelona, 19th July 1936.* He was one of Barcelona's most renowned photojournalists. He was the official presidential photographer and after de Civil War he was worked for the EFE agency and Hello magazine.

Also: Fond Joan Artigues i Carbonell; Fond Pons Bernareggi; Fond Francesc Brunet i Recasens; Fond Luciano Roisin.

MNAC. The National Art Museum of Catalonia will start the digitalization process in 2014.

MAC. All the images digitalized by the Archaeology Museum of Catalonia belong to the Spanish Iconographic Repertoire.

4.9.2 Number of digitised images for Europeana and URL to access them

21.700 images.

At the end of July 1500 images of MAC will be available at Calaix (calaix.gencat.cat), when we will deliver the handle (permanent URL).

The ANC images will be available on-line by the end of 2013.

4.9.3 Number of source objects digitised

21.700 objects.

4.9.4 Originals

Carriers	Glass plates, cellulose nitrate film, cellulose acetate film, paper
Dimensions	Negatives/transparencies: 6x9/ 9x12/10x15/ 13x18/18x24/ stereoscopic/other size Prints: 9x12/ 9x13/ 9 x14/ 10x15/13x18/ 18x24/ 24x30/30x40/ /carte de visite/cabinet/postcard/stereoscopic /other size.
Processes	daguerreotypes, ferrotypes, ambrotypes, autochromes, albumen papers, carbon papers, salt papers, photomechanical processes (halftone, photogravure, collotype), but the most numerous are the following: glass plate albumen negatives, gelatin silver glass negatives, nitrate and acetate negatives, and paper impressions (gelatin printing out papers and gelatin developing out papers).

4.9.5 Digital masters

Resolution	5615x3745 pixels, 5485x2166 pixels (stereoscopic image).
Bits per sample	8 bits
Colour	Adobe RGB (1998) and Gray gamma 2.2
File format	CR2 (Canon raw format) and TIFF_UNC

4.9.6 Digitising equipment and software

Scanners

Scanner EPSON 10.000 XL

Camera

Camera: Canon EOS 5D Mark II
Lens: Canon 50mm AF macro f/11

Software for capture

Canon Eos Utility, Digital Photo Professional and Photoshop CS4 and CS6

Software for management

GANC Images (software owned by Generalitat de Catalunya)

4.10 UNITED ARCHIVES

4.10.1 Fond or collection digitised

Carl Simon Estate. Total of approx 10.000 handcolored Glasslides. Collection Timerange 1890-1930, Travel, Cities, Events.

Heinrich Lämmel Estate. Total of approx 40.000 6x6 Negatives. Photoreportage-Photography, Cities, Landscapes, Events, Time range 1925-1939.

Mauritius Publishing Berlin, Pool of Photographers. Total of approx 60.000 35mm Negatives
Cities, Culture, Industrial Photography. Time range 1920-1939.

Divers private collections.

4.10.2 Number of digitised images for Europeana and URL to access them

8.400 images.

Carl Simon: 4.000 online, 3.000 scanned and in annotation process.

Heinrich Lämmel: 1.400 online, 5.000 scanned and in annotation process.

Mauritius: 3.000 scanned and in annotation process.

www.united-archives.com

Searchstrings to find collections already online: (you need to register first)

v|photographer|0000011

v|photographer|0000024

4.10.3 Number of source objects digitised

16.400 objects.

4.10.4 Originals

Carriers	Glass, films
Dimensions	6x6, 35mm
Processes	Gelatin silver (Glasslides Negatives, Glasplate-Negatives)

4.10.5 Digital masters

Resolution	300 dpi, 762 pixel per cm, 42 cm per side
Bits per sample	8 bits
Color	Adobe RGB
File format	TIFF to create the master and than convert to JPG

4.2.6 Digitising equipment and software

Scanners

Flatbed Scanner, CanonScan 9000F

Software for capture

Photoshop, Caption Writer.

Software for management

Provider of Database: www.confessmedia.com

Regarding the database: confessmedia based in Regensburg is the provider of the database. The company is Avengarde, as far as content distribution is concerned. The database is not a standart product, it is in a permanent development. IMAGIA is the name of the main central and maintainance database, where the webfrontend is linked to. All our channels, who do the sales for us, are linked via API to Imagia. Some supplier databases are linked to IMAGIA too and the content is channeled to our website and to our distribution channels.

4.10.7 File names.

Images get filename of the negative to have direct access to the negative, if necessary. Additional numeric number after import into the database.

4.11 MUSEUM OF HISTORY OF PHOTOGRAPHY (KRAKOW)

4.11.1 Fond or collection digitised

Autochromes collection (1910-1928) – photographs made using first color technique. Very rare in Poland. The collection contains landscapes of southern Poland (Tatra Mountains, Prądnik Valley); pictures of sanctuary in Kalwaria Zebrzydowska; The main part is a group of photos of Krakow. Even though the author – Tadeusz Rząca (1868-1928) – was an amateur, he took the photos under the influence of contemporary painting and thanks to that among his pictures are some works of high artistic value. 185 pictures.

Collection of photos by Stanisław Mucha (1895-1976; press photographer working for Światowid and Ilustrowany Kurier Codzienny, owner of the atelier/photo lab in Krakow) – press photos, very valuable documentation of Krakow in the Interwar Period (1918-1939), including panoramic picture. In the prepared collection are pictures of Krakow, therein these made during the development of the city in the 1930s, photos of a patriotic ceremony which was the funeral of creator of Poland's independence – Marshal Józef Piłsudski, documents made in the schools of Krakow, landscapes, panoramic pictures from the Krynica Górská area. 124 pictures.

Collection of photos by Klementyna Zubrzycka-Bączkowska (1887-1968; pharmacist from Limanowa). Pictures made between 1905 and 1920 using silver gelatine technique. The collection comprise unique evidence of interest amateurs in photography at the beginning of 20th century – photography treated not only as a private hobby, but also as an element of new reality. The cycles of pictures were made during many hiking trips; or paratheatrical improvisations played by the land-owning family of Zubrzycka and their friends. These photos were made mostly in southern Poland, mainly Limanowa and the area. 500 pictures.

4.11.2 Number of digitised images for Europeana and URL to access them

809 images.

Autochromes are already online. The rest of the collection will be accessible till the end of August 2013.

<http://zbiory.mhf.krakow.pl/artwork?numinw=>

4.11.3 Number of source objects digitised

Front and back of the print – positives on non-transparent material

Slides – one shot

Negatives – one shot + processing into positive

4.11.4 Originals

Carriers	Paper, glass, nitrocellulose film, silk
Dimensions	9 x 12 – autochromes; 10,5 x 4,5, 9 x 12 – glass negatives; 12,5 x 17,5 ; 9 x 12– nitrocellulose film; 8 x 13; 20 x 30, 9 x 14; 13 x 18 – paper
Processes	Autochromes, silver gelatine photography

4.11.5 Digital masters

Resolution	600-2400 ppi (capture resolution depending on original dimensions)
Bits per sample	24 - 48 bits
Color	PROPHOTO, ADOBE RGB, SRGB
File format	TIFF, no compression

4.11.6 Digitising equipment and software

Scanners

EPSON PERFECTION V700 PHOTO – positives (smaller or equal as A4)

EPSON EXPRESSION XL10000 – positives (smaller/equal A3), glass negatives (smaller/equal A4)

Cameras

NIKON D70; NIKON D3 – positives bigger than 24x30 cm

PHASE ONE IQ 180

Software for capture

Silver Fast 6, SilverFast 8, Photoshop CS5, Photoshop CS 2.0, Adobe Camera RAW, Capture One 7

Software for management

MUSNET – internal database:

Desktop application

Database: MSSQL 2005

Connection between database and stations with usage of ODBC driver, language: Delphi

Metadata set of single records is being kept in relational base in XML format based on adequate definitions of documents (DTD) for individual departments.

Functionality of full-text searching based on CPL technology (of Personal Library Software company) working on external index files.

NAVIGART – online catalogue

Web application

Database: MySQL

Based on Drupal framework

Language: PHP

Search engine built on Lucene engine

4.11.7 File names

The names of the files are derivatives of accession number. E.g. accession number: MHF 3727/III/99 → name of the file: 3727_99

4.12 ARBEJDERMUSEET

4.12.1 Fond or collection digitised

Arbejdermuseet & ABA, Old collection. The collection consist mainly of photographs describing workplaces, workers conditions, trades unions – people and situations, persons from the workers movement – trade unionists and politicians, and situations from the political world. The photos derive from trade unions, workers dailys, photographers and individuals.

4.12.2 Number of digitised images for Europeana and URL to access them

14.412 images.

[http://abm.arbejdermuseet.dk/ABAV/main/Hits.php?ColSearch=node0_0&PortalMode=1&Fuzzy=0&tgtGroup\[\]=10006&Q=europeana](http://abm.arbejdermuseet.dk/ABAV/main/Hits.php?ColSearch=node0_0&PortalMode=1&Fuzzy=0&tgtGroup[]=10006&Q=europeana)

4.12.3 Number of source objects digitised

Non additional source objects were digitised.

4.12.4 Originals

Carriers	Paper, glass
Dimensions	Many different sizes from 2,5x3,5 cm to 21,5x29,5 cm
Processes	Gelatin silver (prints and glass slides)

4.12.5 Digital masters

Resolution	300 ppi for prints and 800 ppi for glass slides
Bits per sample	8 bits
Color	RGB
File format	TIFF

4.12.6 Digitising equipment and software

Scanner

Epson Perfection V750 Pro

Software for capture

Vuescan and GIMP

Software for management

Description is done in MARC format. The tif and jpg files is stored on a server, and the combination of description and showing the photo file (jpg thumbnails) is done through a library system - Reindex

4.12.7 File names.

The photo files is named mainly in numbers which show scanning date and an additional number, but it does not have to be the exact date, because the general idea is not to show date, but to secure that the file name is unique. But the id in the description file and the photo file name reflect each other.

4.13 THEATRE INSTITUTE (BRATISLAVA)

4.13.1 Fond or collection digitised

The Theatre Institute collection - collection of oldest theatre negatives and photographs. Mostly documentation of Slovak professional theatres, but also amateur theatre. Provenience is mostly Slovak, but also some photographs from other locations.

The City Museum Bratislava subcollection: this collection is mostly oriented on paratheatrical events like parades, demonstrations, celebrations, but there are also some unique portraits of actors, theatre buildings etc.

The Slovak National Archive subcollection: mostly paratheatrical events like funerals, city celebrations, but also rare collections of theatrical life of Slovak emigrants in Serbia, Hungary etc.

The Slovak National Library subcollection: the mostly Slovak amateur theatre documentation collection focused on the very beginning of Slovak theatre, rare photographs from other locations.

The Slovak National Museum subcollection: mostly Slovak folklore - staged rural celebrations, customs. Slovak theatrical life in emigration (mostly USA).

4.13.2 Number of digitised images for Europeana and URL to access them

Ca 7.500 images.

4.13.3 Number of source objects digitised

Ca 7.500 images. We digitised ca 7500 photographs and we obtained ca 7.800 images, as we digitised the back sides of some of them.

4.13.4 Originals

Carriers	nitrate, RC paper, glass, celluloid
Dimensions	13x18, 18x24, 10x15
Processes	albumen, gelatin silver

4.13.5 Digital masters

Resolution	300 ppi
Bits per sample	8 bits
Color	RGB
File format	TIFF_UNC

4.13.6 Digitising equipment and software

Scanner

Plus Tec Optic Book 300

Software for capture

Optic Book Software

Software for management

Different databases like Bach, Clavijus and Cemuz regarding the adherence to the Archive, library and Museum, all together create system is.theatre that unifies them.

4.13.7 File names.

Our politics is formed by the specialization of the theatre institute and is primarily oriented on theatre events, so we use categories like title of the play, names of the theatre, opening date etc. However, we made common categories more accessible to the EF project - f.e. name of the theatre play could be replaced by the title of the photograph.

4.14 ICIMSS

4.14.1 Fond or collection digitised

ICIMSS fonds are in a process of acquisition from private collectors. The digitised collections include the following donators:

- Wladyslaw Dowmont photographic archive
- Bohdan Ryszewski private collection
- Ewa Kola private collection
- Marek Berak private collection
- Chelmza Public Library collection
- Tuczno semi-muzeum collection
- Anna Bogłowska collection – 40
- Maria Roszak collection of postcards –ca. 200
- Małgorzata Paczkowska private collection – 71
- Jolanta Pisarska-Bittow – ca 30
- Maria Pospieszńska – ca 30
- Józefa Sutkowska – 12
- Vary private collections – ca 60

And a few dozens single pictures collected from the public.

4.14.2 Number of digitised images for Europeana and URL to access them

Ca 1.200 images. Part of them already available on the website Biblioteka Kolekcji Prywatnych (Private Collections Library) www.bikop.eu

Work on adding the digitised pictures is progressing.

4.14.3 Number of source objects digitised

In the reporting period over 5.800 images were digitised. They were collected from the private sources, but just a part of them fits with the chronology of the project.

4.14.4 Originals

Carriers	Paper
Dimensions	Postcard
Processes	Photomechanical and silver gelatin

4.14.5 Digital masters

Resolution	600 ppi
Bits per sample	16 bits
Color	RGB
File format	TIFF_UNC 6.0

4.14.6 Digitising equipment and software

Scanner

Epson perfection V600 Photo
CanoScan 8400F

Software for capture

Scanner software, Photoshop CS6, Photoshop Elements, Corel Photo Paint

Software for management

4.15 KU LEUVEN

4.15.1 Fond or collection digitised

Continuation of the collection of glass slides illuminare (originally Art History and Archaeology (+18500 slides))

4.15.2 Number of digitised images for Europeana and URL to access them.

18.000 glass slides are digitised at the moment, 9.925 images have a description.

<http://tinyurl.com/orfco28>

4.15.3 Number of source objects digitised

18.000 glass slides

4.15.4 Originals

Carriers	glass
Dimensions	100x85 mm
Processes	Silver gelatin

4.15.5 Digital masters

Resolution	3800x3200 px
Bits per sample	8 bits
Color	Adobe RGB
File format	DNG and TIFF

4.15.6 Digitising equipment and software

Camera

Nikon D7000

Nikon 60mm AF Macro f/2.8 (Just Normlight daylight lightbox)

Software for capture

Capture: Capture One 6. File conversion: Lightroom 4

Software for management

Images: ingest into a local, intermediate DAM system: Canto Cumulus Workgroup edition, Windows server, 10 concurrent licenses, access through native client, web client or web portal. Cumulus is maintained by the Faculty of Arts, KU Leuven

Metadata: Marc21 database system, based on Aleph (Ex Libris) also maintained by LIBIS.

After metadata image upload into Digitool (Ex Libris), a preservation environment maintained by LIBIS (Leuven Integrated Library and Information System) and coupling of metadata and image.

4.15.7 File names.

All images of digitised objects have a prefix of DIGI. Each project has its own project number (0007). Within the project each object or collection has its own number (0001). Each image has a 6 character number (017369)

Example: DIGI_0007_0001_017369

Digital collection _ project 7 (EuropeanaPhotography) _ Collection 1 (Glass Slides collection Faculty of Arts) _ Image number 17369 within this collection.

4.16 LITHUANIAN ART MUSEUM

4.16.1 Fond or collection digitised

There are 34 national and regional museums contributing their content to Europeana. Their list and number of digitised images can be found in the table below. They all are continuously digitising images all the time. During the period Kretinga Museum, Antanas Baranauskas and Antanas Vienuolis-Žukauskas Museum, Kupiškis Ethnographic Museum, Zarasai Area Museum, Alexander Pushkin Literary Museum, Antanas and Jonas Juškos Ethnic Culture Museum, Aleksandras Stulginskis University Museum,

Tauragė Area Museum, Prienai Area Museum have already digitised their all images. Šiauliai 'Aušra' Museum, National M. K. Čiurlionis Art Museum are on progress. During the period ca 4.000 images were digitised.

4.16.2 Number of digitised images for Europeana and URL to access them.

4.300 images published on our Integral Museum Information System LIMIS (date of 2013 07 05)

<http://www.limis.lt/greita-paieska/rezultatai/-/exhibitList>

The number of digitised images for Europeana is larger, because some images are stored in the system, but haven't been reviewed and published yet or are kept in museums' internal medium. But some of the published images are not going to be provided for Europeana.

4.16.3 Number of source objects digitised

Some of the images have 2-3 versions, but not all of them are going to be provided to Europeana. About 500 of 4.300 published images have an additional file – their backside (reverse).

4.16.4 Originals

Carriers	paper, glass
Dimensions	The format varies between each museum. There are formats, varying from ~6 x 9 to ~13 x18.
Processes	Typographical paint; prints.

4.16.5 Digital masters

Resolution	300 dpi. The size of digital file – at least 500–1000 kB
Bits per sample	16 bits
Color	Greyscale or RGB
File format	TIFF, uncompressed.

4.16.6 Digitising equipment and software

Scanner

Museums mainly use two kinds of scanners: EPSON V500, EPSON 10000 XRL Pro. Both are used for prints and glass plates.

Software for capture

Most often – Photoshop, some use GIMP.

Software for management

Lithuanian integral museum information system LIMIS (Java, Oracle DB); Lithuanian museum virtual exhibitions system (APS, MS Access DB).

4.16.7 File names.

All files have an inventory number, identifying the museum (short form/uppercase letters) and the number of image. In some cases the name of the format is provided (Tiff, jpg, etc.)

4.17 NALIS FOUNDATION

4.17.1 Fond or collection digitised

The State Archives Agency	2.017 images
Research Centre of BSP	265 images
The National Library	196 images
The National Museum of History	271 images
The National Museum of Literature	2.000 images
State Museum of Military History Pleven	81 images
Regional Library Plovdiv	592 images
Regional Library Veliko Tarnovo	70 images

4.17.2 Number of digitised images for Europeana

5.492 images

4.17.3 Number of source objects digitised

5.492 objects

4.17.4 Originals

Carriers	paper, glass plates
Dimensions	Various sizes. Biggest are 18x24.
Processes	mostly gelatin silver

4.17.5 Digital masters

Resolution	300 ppi
Bits per sample	8 bits
Color	RGB
File format	JPEG

4.17.6 Digitising equipment and software

Scanner

Software for capture

ImageMagick (for preparation of the published images)

Software for management

Software for description – in-house software

Software for management – DigiTool of Exlibris

4.17.7 File names.

No specific criteria are applied.

5 TRACKING AND PLANING

WP3 has responsibilities on any information concerning the evolution of the consortium digitisation process. We are in charge to provide figures to WP1 in order to complete the intermediaries and the annual reports. For this reason we adapted a tool form DCA project and we use them to update figures every 3 months. Here below you can see an example of the excel table used to gather data from every partner for the annual report.

	A	B	C	D	E	F	G	H
2	WP3 Digitisation – Summary of progress							
3								
4								
5		Partner:						
6		Period:		M03-M12				
7		Author:						
8		Date of Submission:						
9								
10								
11		Note:						
12								
13		PHOTOGRAPHS	Items to Europeana	images digitised	images catalogued (internally)	images online (own website)	Metadata in MINT	Images in Europeana
14		Type of object	To be submitted	Done	done	done	To do	done
15		Alinari 24 Ore	12319	12319	12319		12319	0
16		Fondazione Alinari	10000	10000	10000		0	0
17		TopFoto	60000	20157	19994		0	0
18		Imagno	20000	5458	5252		0	0
19		Parisienne Photo	30000	12000	12000		0	0
20		ICCU	23000	7500	7500		0	0
21		Polfoto	25000	10601	41032		0	0
22		CRDI	50000	8781	5788		0	0
23		Gencat Cultura	64705	21700	16000		0	0
24		United-Archives	40000	5784	4705		0	0
25		NALIS	15000	1372	1372		0	0
26		MHF	3000	0	0		0	0
27		Arbejdermuseet	25000	12543	11288		0	0
28		Divadelny Ustav	10000	7000	6200		0	0
29		ICIMSS	10000	500	500		0	0
30		KU Leuven	15700	8800	6000		0	0
31		Lithuanian Museum	20000	6615	4400		0	0
32		Totals	433724	151130	164350	0	12319	0

In WP3, we also gather information concerning every partner's plans for publishing images with metadata to Europeana. They are 2 periods already established for this publication: November 2013 and November 2014. The control over tracking and planning corresponds to WP1.

This monitoring tool will also be used by NTUA for the automatic generation of progress reports on the metadata production and delivery to Europeana through MINT. A joint work by WP1, WP3, WP4 and WP5 will assure that activities are under control. This joint work will be carried on thanks to a "metadata task force" composed of representatives of each involved WP.

6 EVENTS

The consortium organized three different events in order to train the partners in a high quality digitisation process. The main event, as announced in the DOW, was the workshop in Girona, organized by CRDI.

The workshop in Girona aimed to provide an overview of the available systems for original photographic materials digitisation as well as the best procedures aiming at obtain the best results in terms of image quality and fidelity to the original. Best practice methodology for content capture/digitisation was performed in the 2 days. We collected and made available a recommendation paper named "Recommendations for digitisation" and also through the EuropeanaPhotography website. The goal of this short paper is to establish the main recommendations for partners involved in this WP. These recommendations come from the explanations that the experts (Carles Mitjà and Bea Martinez, both teachers at Polytechnics University in Catalonia - UPC) made during the workshop *Digitisation systems and procedures in photographic image archives* organized by CRDI of the Girona City Council in 21-22 May 2012 (the workshop was attended by 22 people representing 13 partners of the project).

Two seminars took place in Leuven and in Barcelona. In Leuven seminar (12-13 April 2012), Bruno Vandermeulen of KU Leuven, showed the facilities of the university and he provided a technical explanation about devices and digitisation process. In Barcelona seminar (17-18 September 2012, with the occasion of the consortium plenary meeting), Carles Mitjà, teacher at Polytechnics University in Catalonia – UPC, explained and made available a recommendation for testing equipment. The goal of this seminar was to establish the criteria for the characterization and testing of equipment in order improve image quality. These recommendations comes from the study that the he and Bea Martinez made with one of the partners (CRDI) equipment. Earlier, at the very beginning of the project (during the kick-off meeting at the premises of former coordinator Alinari 24 Ore), all the partners had also the possibility to visit the Alinari24Ore digitisation facilities and a quick overview of the process was provided by Alinari team.

As a result of the workshop and the two seminars, we can supply 2 factsheets concerning digitisation process that will be printed for dissemination and also published in Europeana Photography website. The dissemination works corresponds to WP7.

FACTSHEET 1

General recommendations for digitising the photographic heritage, by Carles Mitjà and Bea Martínez

Within the framework of the EuropeanaPhotography project, the Centre for Image Research and Diffusion organized a 14 hour workshop about digitisation (May 2012). The workshop aimed to provide an overview of the available systems for digitisation of original photographic materials as well as the procedures to obtain the best results in terms of image quality and fidelity to the original. The teachers for this workshop were Carles Mitjà and Bea Martinez, both teach at Polytechnics University in Catalonia (UPC), and are very renowned professionals in Spain. This factsheet provides some **general recommendations on digitisation**. These recommendations were produced from the lectures and feedback during the workshop. They are not to be considered a theoretical corpus, but as a best practise guide.

Recommendations

1. For best results digitisation should be done using a digital camera back as the quality is superior to scanners. The use of a camera avoids physical contact with the original and has virtually no restriction on size regarding the dimensions and properties of the original work.
2. Both for reflective and transmissive work, the lighting applied for digitisation using a camera should be by electronic flash strobes. Strobes allow very short exposure times that avoid camera shake at large magnifications and also provide better sensor response.
3. You must determine the best lighting system when digitising different types of materials. The main types of material to test for different lighting are opaque and translucent materials.
4. Before testing equipment, you must collect information about the camera and lens in order to determine the quality of your equipment.
5. The camera lens must be near free of distortion (best options below 1%); this is not possible with zoom lenses. TCA must not be present. The lens must be tested and both residual distortion. TCA should be fixed at the RAW file processing stage.
6. The camera lens resolution must be tested in order to find the optimum aperture range to avoid aberrations when fully open and to eliminate diffraction effects when closing down the diaphragm.
7. Depending on the resolution needed for a given application, the more photodetectors on the sensor the higher the risk of image degradation because of diffraction at small apertures. A possible solution is to increase the physical sensor size and so avoiding the excessive reduction of the sensor photodetectors size.
8. Sensors without an anti aliasing filter (known as the optical low pass filter or OLPF) can produce image artefacts when taking pictures containing textures that have small details periodically structured. The greater the camera resolution, there is less chance of aliasing and moiré patterns. In some cases changes in magnification can reduce or completely remove the aliasing effects.
9. The aliasing measurement. A system false response or aliasing must be measured by analysing the image of a suitable sinusoidal test target taken at different configuration modes.
10. The OECF measurement should be calculated to determine the optimum dynamic range available for different working conditions.
11. For any given equipment set up, the system MTF measurement and interpretation provides objective information about:
 - a. Best lens, aperture and sensor combination performance.
 - b. Risk level about aliasing.
 - c. Best camera settings and values to be used in each case.
12. Any lens-sensor system provides raw files that lack in contrast and sharpness; this can and should be fixed as a raw processing adjustment or as a post processing operation.
13. Any processing affecting image tone, colour, contrast and sharpness must be monitored by analysing groups of originals and taking objective measurements from the images.
14. Although cameras capture in 12 or 14bit and can provide 8 or 16bit output, capture should be done at the highest bit setting available and output should always at 16bit as this helps avoid processing artefacts. After image processing, any output intended for a use should be saved as B&W or Color of 8bit in depth.
15. When lighting textured objects, a single fixture is considered better than a uniform two light illumination. This helps keep a natural texture appearance; unevenness in brightness can be fixed by digital image processing.
16. Edge enhancement needs to be applied with care to avoid any over-sharpening and must be monitored using objective measurements. In general, while unsharp mask (high pass filter) tends to exaggerate edge enhancement over the high contrast regions, band pass filters as DOG (Mexican Hat) act preferentially over the mid frequency regions, providing a more natural result.
17. Screens must be calibrated in order to view image colors accurately and to allow correct image processing. It is important to know the color space of the screen and avoid viewing of images with wider color spaces; working with ProPhotoRGB is not recommended to view images.
18. Archive images must have a known ICC profile (specific or standard). AdobeRGB is recommended for archive images, because it allows optimization of images for different outputs with minimum loss.
19. There are different ways to calibrate camera colors, depending on the RAW processor. Adobe Camera RAW (ACR) works with ACR profiles that can be created for each camera and situation, while Capture-One works with pre-defined ICC Profiles, created for each camera model. In all cases, is recommended to take a photo of the ColorChecker Chart in the same conditions as the digitised images. This process proves useful when calibrating and evaluating camera color reproduction.

20. When applying a new ICC profile (or standard color space) is important to know the difference between Assigning and Converting as the result is different for both cases.
21. Working with RGB color spaces is the recommended option to process and archive images, because it has a higher bit depth than grey scale images and wider color ranges than CMYK color spaces.

FACTSHEET 2

Practical recommendations for digitising the photographic heritage, by Bruno Vandermeulen

Within the framework of the EuropeanaPhotography project, KU Leuven organized a content seminar in Leuven, Belgium (April 2012). During the seminar the partners visited the digitisation facilities at the Central Library. The university's workflow on digitising photographic materials was discussed and commented. This factsheet provides some **practical recommendations on digitisation**.

Recommendations

Set up

- Create a dedicated workspace for digitisation.
- Make sure walls and ceiling have a neutral tone, if possible dark grey.
- A reprostand is specifically designed to make reproductions, use one.
- Make sure it is heavy enough and standing stable.
- Make sure your camera is fixed tightly, avoiding camera shake and vibration
- Use studio strobes
 - Short exposure time
 - No heat
 - Constant color temperature
- Try to bundle the same type of material so you can make a setup that doesn't change during digitisation
 - Light doesn't has to move so the intensity is constant
 - Same shutter and aperture values
 - Same camera settings
 - Same color reproduction
 - Same camera and lens combination
 - An incredible timesaver and less prone to errors
 - Uniform results during the whole process of digitisation

Digitisation

- If possible, use a camera
- A camera has no limitations on the size of the object
- Use a macro lens as it is optimized for close-up photography and has virtually no distortion and chromatic aberration
- Use an aperture value of 8 or 11. Larger apertures can cause vignetting, smaller apertures can produce diffraction (loss of sharpness and contrast).
- Photograph at the camera's base ISO/ASA value (e.g. 50, 100 ASA)
- Cameras without AA filter have higher risk producing moiré. Moving your camera closer or further will reduce this.
- Set your camera in Manual mode as your exposure doesn't change with a fixed setup

Workflow

- Try to digitise the same type of objects or materials in one batch
- Use a good monitor and calibrate it (X-Rite, Datacolor, ...)
- Photograph in RAW
- Photograph tethered (camera connected to computer through USB or Firewire)
 - No messing around with memory cards
 - You see the result immediately

- You can automatically apply your settings through presets (white balance, contrast, tone curve, camera calibration, ...) and compare to the original immediately (because you work in a permanent setup)
- You can back up automatically
- Delete bad shots immediately
- Rename your images as early as possible in your workflow
- Photograph at regular intervals a color target for input profiling (Colorchecker Passport or SG, IT8 target, ...) and apply those settings (see also the factsheet on input profiling)
- Apply the unsharp mask at the end, check at 100% and don't oversharpen
- Use AdobeRGB as output colorspace
- Output:
 - TIF as archival copy if the original (RAW) file is deleted
 - JPG as working copy with either TIF or RAW file as backup
 - Convert your RAW files to DNG format as RAW files have a proprietary coding while DNG is an open format

Input profiling with a color reference target (colorchecker).

What you need

- a SLR camera set to RAW shooting mode
- ColorChecker or ColorChecker Passport
- ColorChecker Passport Camera Calibration Software (included when you buy the ColorChecker Passport)
- Photoshop, Lightroom or Aperture

How to proceed

- Photograph the ColorChecker under identical circumstances as you digitise your originals.
- Convert your RAW image to the DNG format.
- Close Photoshop: this is an important step as Photoshop can only implement the newly created profile when starting up from scratch.
- Open the ColorChecker Calibration Software and make a profile
- Relaunch Photoshop and save a preset.
- Apply the preset. As long as you don't change anything in your digitisation setup (lights, camera, lens combination) you can apply the preset to all the images taken that day or week for a perfect color and white balance

7 CONCLUSION

The deliverable fully presented the results of the activities taken to digitise and catalogue the content to be submitted for Europeana portal. The activities can be grouped in 4 main categories:

- Preparation of originals
- Digitisation
- Cataloguing
- Quality control

The continuity of the works in WP3 will follow the same working structure and the results will be presented in the deliverable D3.1.2, on the month 30, 6 months previous of the end of the project. That is the period of time calculated to enrich and prepare the 438.024 images to be published in Europeana.

7.1 RESULTS

Section 4 contains the results obtained by each partner and that is a total of **158.410 images** digitised and catalogued that can be accessed online in each partner website. This document has also described the main features of the digitisation process.

The updating of figures concerning digitisation and cataloguing will be done regularly thanks to the contribution of all partners.

7.2 IMPACT

The results herein presented are essential for the progress of the project. Digitisation and cataloguing tasks are absolutely indispensable for the following enrichment activity and transfer to MINT server. So, this work has a beneficial impact on the work in WP4 and WP5. It is also useful for WP7, as there exist a strong willing of disseminating the knowledge and experience in digitising the photographic heritage. During training sessions and also in some meetings, partners learned from each other's digitisation procedures. That is something considered of great value inside the consortium as it has an important impact to all partners in the in-house digitisation process. From the technical point of view, the results have impact not only to the project partners but also to the cultural community with responsibilities on ancient photographic heritage.