

THE ITALIAN OLD CADASTRES FROM THE STATE ARCHIVES TO THE WEB OBSERVATIONS ON THE EXISTING PROJECTS

- The maps and records of the various ceased cadastres of pre-unity Italian regional states and of the post-unity Kingdom of Italy, realized by both central and local offices, responsible for the surveying and activation of cadastres, are today preserved in the State Archives.
- The **archival administration consequently detains a heritage of inestimable value**, which over the years has proved to be among those most actively consulted in the study halls by a growing number of users with diversified interests.
- We provide general guidelines concerning the projects aimed at Web publishing series of maps related to cadastres activated in Italian pre-unity territories ruled by Austrian Monarchy : **Lombardo-Venetian Kingdom and Adriatic Litorale**.
- All the information items are derived mainly from the presentations of the same projects, which are to be referred to for further investigations.
- The **first significant experiences in digital reproduction of this material** with no intermediate photographic support were realized at the end of the nineties.
- To that time dates the first appearance on the market of digital acquisition systems consisting of reliable digital scan-backs for professional photocopiers or scanners for medium and large sizes suitable for cadastral maps.
- From 1997 to 2004 the archives of **Milan, Rome, Cagliari, Venice**, Turin carried out pilot projects (**Imago Projects**) aimed at the digital reproduction of entire series of cadastral maps and historical collections of pre-cadastral maps.
- A few document management systems were designed for various institutes (Milan, Turin, Venice), upon specifications by the University of Genoa (DIBE Department), by the company Elsig.

STATE ARCHIVE OF VENICE - PROJECT DIVENIRE

MAPS OF THE AUSTRIAN AND AUSTRO-ITALIAN CADASTRES.

- **DIVENIRE Project** was conceived in 2006 by the Director of the **State Archive of Venice**, dr. Santoro, in order to **develop a computer system for creating, managing and consulting on the web the high resolution images and descriptions** of complete archival **series**, or significant parts of them.
- The **software** was developed by a consortium of **companies including Hyperborea Ltd.** from Pisa and **GAP Ltd.** from Rome, based on a set of technical specifications defined by the National Research Council in Florence.
- Aim of the **project "Divenire"** is to **publish online a rich collection of digital reproductions which has been built up by the Institute** through its participation in previous projects (Imago, Multimedia Historical Archives of the Mediterranean).
- Various documentary series, most of them complete, like series of parchments, registers of deliberations produced by the major governing bodies of Venetian Republic, series of drawings, have been reproduced in digital format.
- The **series of maps**, already **published on web by DIVENIRE system**, were partially reproduced with Imago Project during the period 1998-2004.
 - **Lombard-Venetian Kingdom Stabile cadastre**, the entire series of maps of the province of Venice, published in 1841 (3,795 sheets).
 - **Austro-Italian cadastre**, the entire series of copy maps of the province of Venice, published in 1846, with updates up to the beginning of the twentieth century (2,300 sheets + 1700 sheets, globally 4,000 sheets).

STATE ARCHIVE OF VENICE - PROJECT DIVENIRE MAPS OF THE AUSTRIAN AND AUSTRO-ITALIAN CADASTRES.

- **Original maps surveyed during the napoleonic period**, from 1807, will be published online by the software system Divenire as soon as possible.
- These **very big sized maps** are now **reproduced by the Photographic Section inside the Institute using the Digital Macro Camera of Metis**, with parameters defined in the previous projects: **400 dpi in TIFF format for the master kept off-line and Tiff pyramid for on-line** consultation operated by DIVENIRE.
- **System DIVENIRE manages research and consulting thumbnail, full size images**, and the **descriptions level concerning documentary units reproduced**. The link with the images is mediated by a representation of metadata in the italian standard MAG format.
- The Institute's web site offers to researchers a **local Informative System of the State Archive of Venice (SIASVE)**, which makes available on web **complete archival descriptions of creators of archival records, fonds, archival collections, and their series** down to the level of archival units, **fully compliant with international archival standards** (ISAD-G, ISAAR-CFP).
- The integration between DIVENIRE and SIASVE provides **information about archival context necessary to ensure the correct interpretation** of all document units reproduced and published.

STATE ARCHIVE OF TRIESTE - PROJECT OF ONLINE CADASTER FRANCISCAN CADASTER

- Project of the **State Archive of Trieste**, coordinated by dr. Marcello Scrignar, induced by the **purpose to establish international agreements to promote access to documentary resources relating to bordering territories of foreign states.**
- Technical expertise and equipment suitable for digital reproduction of medium sized originals, have enabled the Institute to realize in recent years, using internal resources, an ambitious **project aimed at reproducing the maps of the Franciscan Cadastre.**
- During the **period 2004-2006 the Project enabled to create a database researching and accessing through a local network a total of 8.279 images of maps** for the areas formerly subject to the Austrian monarchy and included in the **Adriatic Litorale: Trieste, Rijeka, Gorizia, Istria, Zadar and a part of the province of Udine**, produced in the period 1820-1827, with subsequent updates until 1862.
- Since **2007** the State Archive has started **the second part of the project**, aimed at **implementing the website CATASTO IN RETE and publishing cadastral map series and land records of municipalities** today included in the province of Trieste, and in the districts of Labin, Duino and Koper now belonging to the bordering states of Croatia and Slovenia.
- **Series published and available on the CATASTO IN RETE website**, produced in the pilot phase:
 - **Franciscan cadastre - maps of municipalities included in the province of Trieste, and in the districts of Labin, Duino and Koper** now belonging to the bordering states of Croatia and Slovenia (200 units), already digitized;
 - **Franciscan Cadastre land records of the same municipalities in the districts of Labin, Duino and Koper** digitalized during the pilot phase.

STATE ARCHIVE OF TRIESTE - PROJECT OF ONLINE CADASTER FRANCISCAN CADASTER

- **The second phase of the project will include**
 - ✓ **The digital reproduction of the remaining series of land records**, consisting of 2005 volumes (about 400,000 images).
 - ✓ **The publication on the website of the already reproduced maps and records** of other areas included in the ancient province of Littoral.
- This part of the project is of the greatest interest, considering that maps and records refer to municipalities now belonging to the districts in the republica of Croatia and of Slovenia partially bordering the province of Trieste.
- The **Institute uses for the website** "On Line Cadastres" the application DBMS Arianna Web created by Hyperborea Ltd. to manage the Web publishing of descriptive levels referred to archive systems and creators down to the archival units.
- Currently the **system handles the Arianna Web hierarchical tree of archival descriptions** up to documentary units accessible from the site. The application makes available a thumbnail image associated with descriptions of documentary units which can be opened and navigated at full resolution.
- **The system DIVENIRE will be soon integrated in the website** to manage descriptions of **documentary units and the images** associated with them in more flexible way, using also the specific features of this application (e-commerce, gallery), following the example of other state archives.
- It has been necessary to migrate the existing databases from **Informative System of State Archive** SIAS for high level descriptions concerning fonds, collections and creators, and from Access for descriptions of the documentary units reproduced. The **image display** is managed **by the open source application IIP Image Server**.
- The images already available were converted from the original format into multiresolution TIFF pyramidal image format used for displaying images with the IIP Image Server application.

PORTAL ATLAS OF HISTORICAL CADASTRAL MAPS OF LOMBARDY. ARCHIVE OF STATE OF MILAN

- The **project** launched in 2009, **promoted by State Archive of Milano, Politecnico of Milano**, Research Group Surveying Information Technologies for Environmental Heritage (**SITE**), Lombardy Regional Directorate - Land Agency and led by Raffaella Brumana and Mario Signori, aims at realizing a thematic Portal called **Atlas of the Historical Cadastres** and Topographic maps of Lombardy.
- The mission of the project, supported by Bank Foundation Cariplo, is the **creation of a dedicated portal** that integrates **applications based on Web GIS** and different functions for accessing the old cadastral cartographic heritage preserved in state archives of the Lombardy region.
- The **Portal Atlas publish over 28,000 images** in raster format, obtained from the reproduction of the same cadastral mapping series realized by the Institute for the **Imago Project implemented in 2000-2004**.
- The maps were digitized with a resolution of 254 ppi (10 ppm) using recording equipment manufactured or supplied by the company Metis-Informatica Ltd Rome.

PORTAL ATLAS OF HISTORICAL CADASTRAL MAPS OF LOMBARDY. ARCHIVE OF STATE OF MILAN

Here are the series reproduced and published on the Portal Atlas of Historical Cadastres:

- **Teresian Cadastre of Austrian Lombardy** (1720-1760), maps series, with a selection of original survey maps of major inhabited municipalities, and with updates for territories placed along the Adda, Ticino, Lambro, Oglio, Po riversides (7579 sheets).
- **Stabile Cadastre of the Lombard-Venetian Kingdom**, original map series surveyed during the Napoleonic from 1807, and copy maps series used to publish the cadastre (2100 sheets).
- **New Cadastre of Austro-Italian territories in Lombardy**, series of maps produced during the period 1854-1888, with updates until 1897 (11,822 sheets).
- **Building cadastre** maps published in 1875 (248 sheets).
- **Land cadastre of Italian Kingdom**, post-unity series of maps based on the survey promoted for the New Censo, published in the period 1897-1902 (6016 sheets).

- The Portal **presents and provides the information** in **two main areas**, characterized by differentiated structure of contents, access routes and equipment descriptions.
- The **geographical information area** makes accessible on **WebGIS** pages, **created with the open source application GeoServerMap**, reproductions of important **maps and historical chorographies of Austrian Lombardy**, and some **urban maps of Milan, georeferenced to the current mapping**. The historical base maps are viewable in both versions, in their original format and in mosaic created with CAD applications for navigation in a continuous way.
- The pages of **WebGIS developed with GeoServerMap** modules also allow the navigation of the current mapping and the management of thematic vector layers.

PORTAL ATLAS OF HISTORICAL CADASTRAL MAPS OF LOMBARDY. ARCHIVE OF STATE OF MILAN

- The Portal will provide **direct access** from the **base maps** published in WebGIS to **cadastral maps managed by DIVENIRE system**. The user can directly access the corresponding maps clicking on chorography georeferenced the vector layer of the areas defined by the old boundaries of the municipalities.
- The **information area of the catalogue** gives access to the database of descriptions and images of maps, managed by the **application system DIVENIRE**, document management system (DMS) based on PostgreSQL, **implemented by the company Hyperborea** Ltd. Pisa.
- The system allows the **management of the series reproduced** and provides various administration features, including the ability to manage the creation of new series and the insertion of new images and new descriptions.
- DIVENIRE offers **two alternative ways of access to the maps** and their images: through **a list of names** and through **a gallery of thumbnails of the images**.
- The web user can dispose additionally of the **e-commerce function for the purchase of copies**, for which registration of personal data is required.
- The **image viewer** is managed through the application **Internet Image Protocol Image Server**, open source application that requires no installation on web client of application components by third parties.
- The format for displaying images taken from the IIP Image Server System is integrated into the TIFF multi-resolution, pyramidal format.

NATIONAL ARCHIVES SYSTEM (SAN) - NATIONAL ARCHIVES **PORTAL**

- **As new centers for the conservation and exploitation of archives keep spreading nationwide, the Archival Administration has set up occasions for a fruitful exchange of ideas and the building up of proposals on how to develop the coordination and connection among the different players.**
- **The result has been the design of a system by the NATIONAL ARCHIVE SYSTEM to be set in place in the near future with its governing bodies at national level, coordination committees at regional level and archival preservation or service providing centers at local level.**
- **The essential element in the NATIONAL ARCHIVES SYSTEM (SAN) will be its digital projection, a NATIONAL ARCHIVES PORTAL (NAP) which will act as the single point of access to national archival resources, while respecting the autonomy and specificity of the various local systems that may be further enhanced.**
- **The NATIONAL ARCHIVES PORTAL will**
 - ✓ **provide orientation to the users on how to approach the national archive system, by means of a set of basic information ;**
 - ✓ **develop tools for common access, standards and work tools to be proposed to the national archival community.**

NATIONAL ARCHIVES SYSTEM (SAN) - NATIONAL ARCHIVES **PORTAL**

It will be structured into the following elements and contents:

- **ARCHIPEDIA, a glossary of archival terminology for use by non-specialists;**
- **Bibliographic DATABASE on national archival literature of recent decades;**
- **SEARCH HELP and TUTORIALS for different types of users, including the less experienced;**
- **THEMATIC ACCESS to resources and sub-portals dedicated tracks leading to different**
- **NEWS and virtual exhibitions to illustrate the various aspects of the world of archives;**
- **types of archives, including historic and cadastral mapping;**
- **Web 2.0 tools to communicate with the users of the portal and enable them to participate in the development of its contents;**
- **DIGITAL ARCHIVE enabling access to digital reproductions of fonds and series produced locally**
- **CATALOGUE of archival resources (CAT) structured as follows:**
 - ✓ **Archive Institutions**
 - ✓ **Archives**
 - ✓ **Search Tools**
 - ✓ **Creators**
 - ✓ **Authority lists of creators**

NATIONAL ARCHIVES SYSTEM (SAN) - NATIONAL ARCHIVES **PORTAL**

- **Archive Institutions**

- ✓ The catalogue will provide just one description card for each Archive Institution
- ✓ The identifying information will be acquired from side (member) systems
- ✓ The contents will undergo editorial standardization
- ✓ The objective is a national list of Archive Institution

- **Archives**

- ✓ **The description will normally be imported from the participating systems, limited to essential elements set out in international standards.**
- ✓ **Each description imported will be connected to a "system member" card, which contextualizes its origin and to which it will be linked.**
- ✓ **The archive systems may then be linked to archival digitization projects available in the NATIONAL ARCHIVE PORTAL**

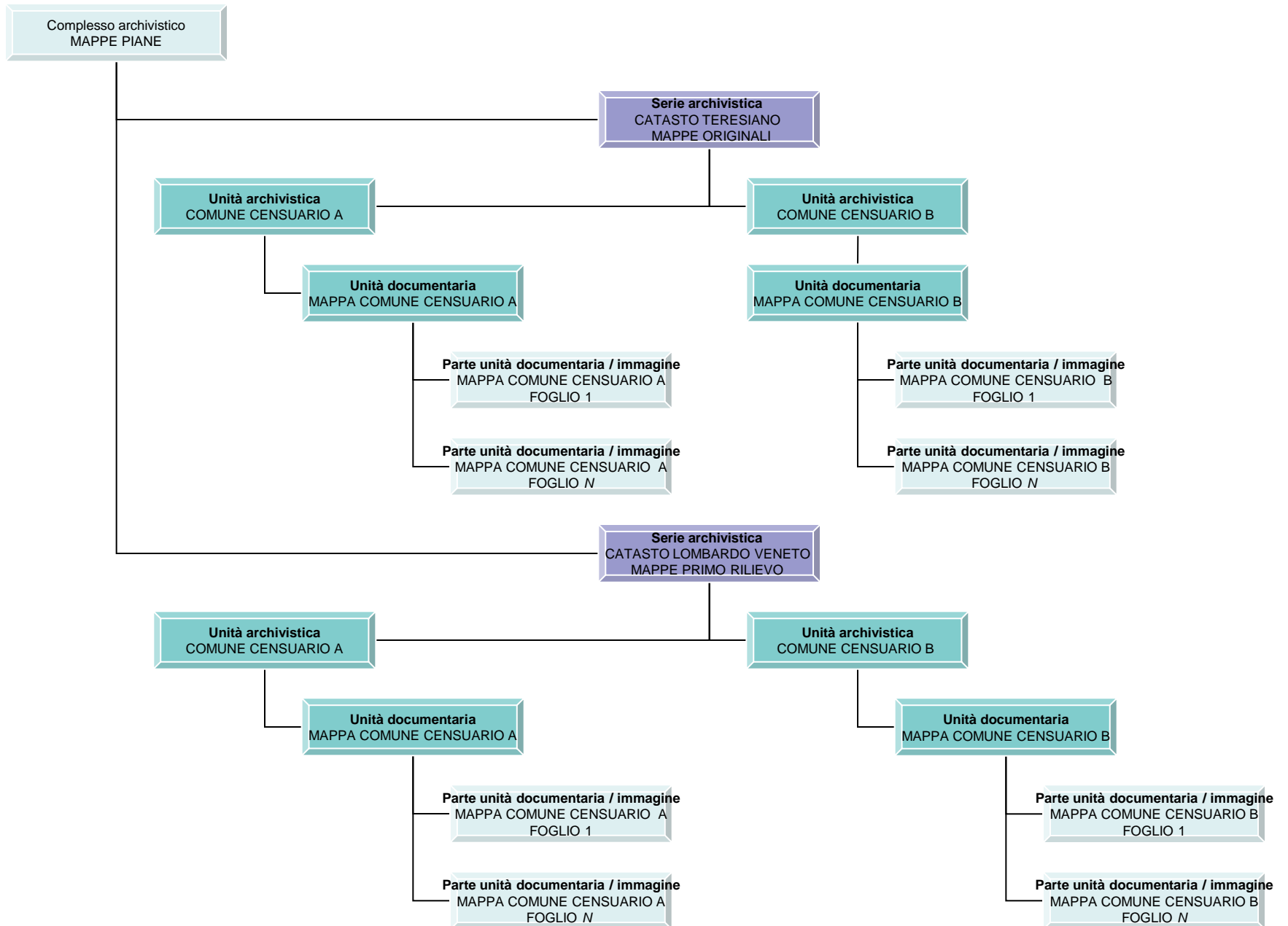
- **Authority lists of creators**

- ✓ **Different descriptions of the same creator may be imported from the different systems**
- ✓ **Each description will be referred to the imported item in a list of relevant authorities of the creators, which will be a major access point for search and navigation purposes and allow the link among all these various descriptions and the connection with other systems of cultural heritage.**

NATIONAL ARCHIVES SYSTEM (SAN) - NATIONAL ARCHIVES **PORTAL**

- The architecture of the CATALOG, its contents and its standards were defined in the working groups appointed under the Joint Commission gathering together State, Regional and Local governments, representing different geographical and institutional realities:
 - ✓ **CATALOG tracks (archive institutions, fonds, search tools);**
 - ✓ **definition of lists of authorities;**
 - ✓ **protocols of export-import from and into the CATALOG metadata, digital resources.**
- Formats and data confluence processes from member systems have been defined through exchange protocols; export-import files in XML format are produced according to schemes developed on the basis of recognized standards (EAD for fonds; EAD (header) for research tools; EAC-CPF for creators.
- The CATALOG has adopted a "record-centric" approach: each "object" is described in a card and the relations among objects, including hierarchical ones, are made explicit in the track of the record.

STRUTTURA BASE DATI DIVENIRE



L'Atl@nte dei Catasti Storici e delle Carte Topografiche della Lombardia

MOSAICO GEOGRAFICO WEB E PERCORSI DI ACCESSO AI DATI

Il portale Atl@nte dei Catasti Storici e delle Carte Topografiche della Lombardia offre strumenti di accesso differenziati alle immagini ottenute dalla riproduzione in formato digitale delle serie cartografiche dei catasti storici e delle collezioni di carte topografiche e geo-iconografie conservate presso l'Archivio di Stato di Milano e presso altri Istituti lombardi.

La ricerca può essere effettuata seguendo percorsi differenziati e incrociati tra loro: accesso e ricerca geografica su carte georeferenziate, accesso al catalogo descrittivo, percorsi tematici

GEODBASE: BASI DATI CARTOGRAFICHE PUBBLICATE (ASMi, a cura di M. Signori)

ACCESSO GEOGRAFICO
E RICERCA SU CARTE GEOREFERENZIATE

**CARTE TOPOGRAFICHE
E CATASTI STORICI**

AREE STORICHE TERRITORIALI
Ricerca per tipologia di mappa

- Area regionale
Aree provinciali
- Aree urbane

CATALOGO DESCRITTIVO
SERIE CATASTALI STORICHE

**CARTOGRAFIA DEI CATASTI
STORICI CESSATI**
Ricerca per toponimi

- **25.000 Mappe Catastali accessibili. Il servizio sarà attivato a breve.**

PERCORSI TEMATICI
Navigazione su carte e mappe
georeferenziate

RACCOLTA

- Foto storiche
- Corsi d'acqua
- Carte delle Pievi
- Altre serie

bottoni >> **Ricerca Geografica**

Catasti catalogo

Acque e territori

**Accesso geografico
(modulo Geoserver Poli)**

**Catalogo descrittivo
(modulo Hyperborea)**

**Percorsi tematici
(Il anno)**