

Beyond Borders!

Cadastral Maps – ideal field for international archival cooperation

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CARTOGRAPHY AND CADASTRAL MAPS
Visions from the past for a vision of our future
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Archives – reservoir of spatial knowledge

- Maps – storage and presentation of geoinformation
- Digital Geographical Information Systems (GIS) – capture, storage, management, presentation and analysis of geoinformation
- Integration of digitized maps into GIS systems – way of transformation of archival sources into spatial knowledge directly

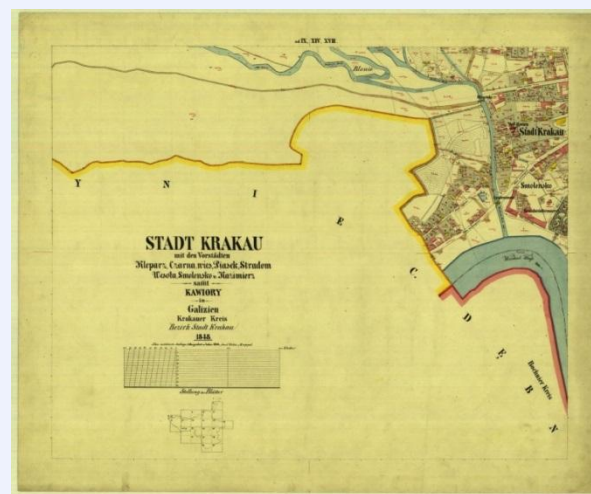
Cadastral maps

- **High-scale maps** made for land registry (1:1500 – 1:5000);
- Based on cadastral survey in the field and measurement of land;
- Represent the **individual parcels**, the dividing lines between them and their **identifying numbers**, illustrate the land use and the most important natural and built objects in the terrain
- Provide detailed and authentic information on the earlier state of the natural and built environment and on changes in land use;
- Provide information on **land ownership at parcel level**.



High potential for historical research and practical usage:

- Urban history, agricultural history, environmental history, local history, genealogy, traffic history
- Urban and landscape planning, regional planning;
- Legal cases;
- Archeology
- Hidrology
- Environment and landscape protection
- Registration and protection of cultural heritage, etc.etc



Beginnings of modern cadastral mapping

Some of the earlier cadastral maps were drawn by polder authorities in of Netherlands in the 17th century for the levying of dike taxes.



Map of Beemster Polder
1658

Emergence of the „sworn surveyor”

- Professionalization of surveying and mapmaking in the 17th century Netherlands: standardized repertoire of skills; oath to be honest and impartial
- First formal training for surveyors at the University of Leiden in 1600



Cadastral survey and mapping in 18th – 19th century Europe

- Basic tool of emergence and functioning of modern state and capitalist market economy
- High level of nationwide organisation, strict quality management, precise and detailed information about land
- Can be regarded as a Historical Geographic Information System – possibilities of linkage to the digital GIS



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Ideal object for international archival cooperation

- Comprehensible and usable source for international multilingual public
- High potential for publicity
- Multiple usability
- Meeting the technological and methodological challenges together
- Need and demand of virtual „reunification” of scattered historical cadastral systems – using the possibilities of digitization and GIS-based on-line publication.

One example: cadastral maps of the Habsburg Monarchy

- Carried out in the whole Habsburg Monarchy (after 1817) by standardized procedure and technical requirements, standard scale (1:2880, 1440), „supranational” cadastras systems.
- Common heritage of 12 countries - Uniform types of maps and records
- Divided and scattered heritage – recurrent displacement because of changing state borders, administrative and archival structures, tumultuous events etc. Materials closely related in their provenance and pertinence are divided between different states. They are subject to varied archival practices with regards to methods of processing, description, and access.
- Lack of overview of the whole.

The notion of „cadastral map” includes different types with different functions, content and level of accuracy:

Preliminary phase,
working materials

*Field sketch
(Feldskizze)*

*Indication sketch
(Indikationskizze)*



Cadastral map

Original map

Duplicate maps

*Imprints,
replications*

Re-use



Monitoring and
registration of
changes

Revision

Keeping up-to-date

Differing usage and preservation history.

Which one is preserved? Which one is to be digitized?

Problems of overlapping and redundancy.

Challenges and difficulties in international cooperation

- GIS-based internet-publication of huge amount of large-scale maps in common databases requires robust digital infrastructure
- Highly different level of overview over cadastral heritage in different countries (knowledge about what is preserved, where is preserved, what is lacking, what is replaceable or can be supplemented from other collections, etc.)
- Extreme differences in preservation conditions, accessibility, finding aids and databases between different countries and different repositories

Possible fields/levels of cooperation

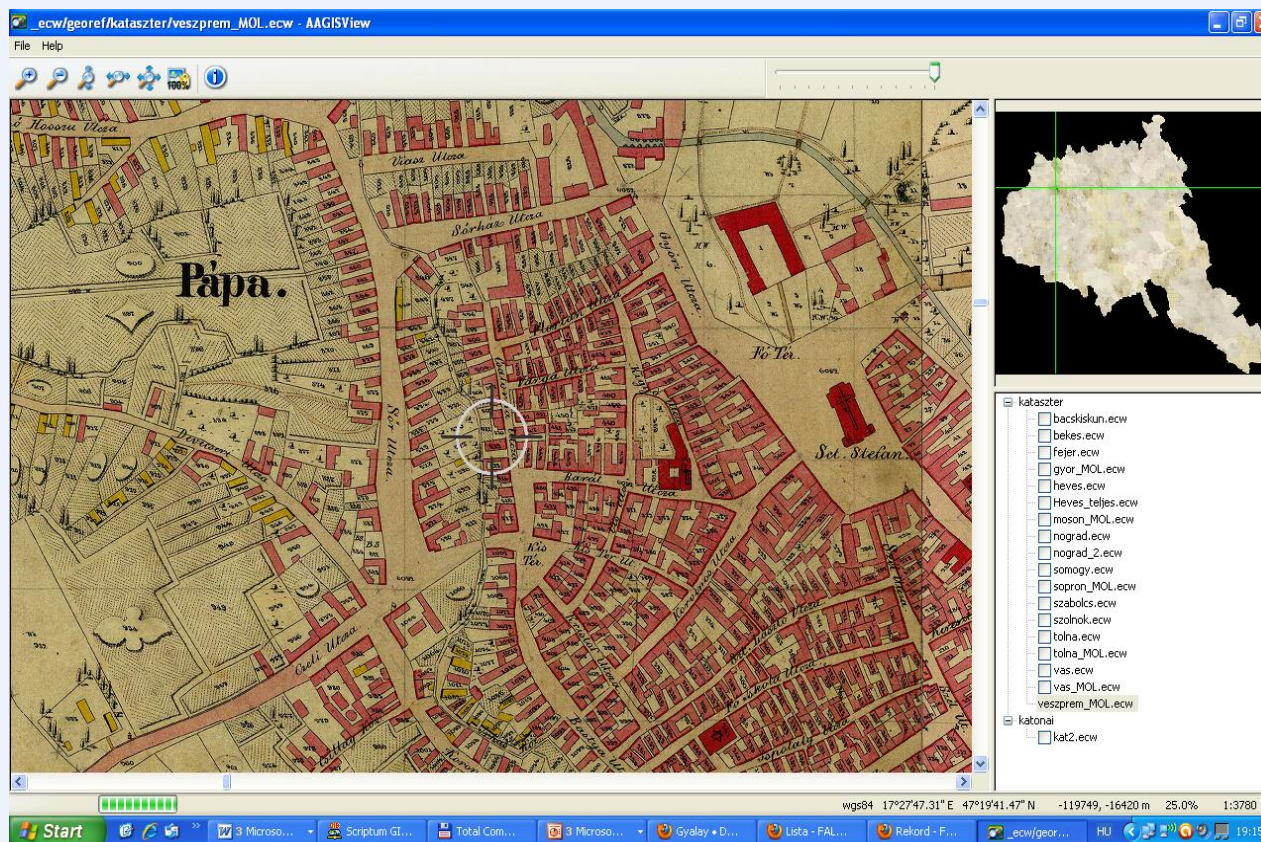
Digitisation

(Including appraisal and selection of material to be digitised, preparation, conservation, digital restoration)



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Internet publication and geo-referencing

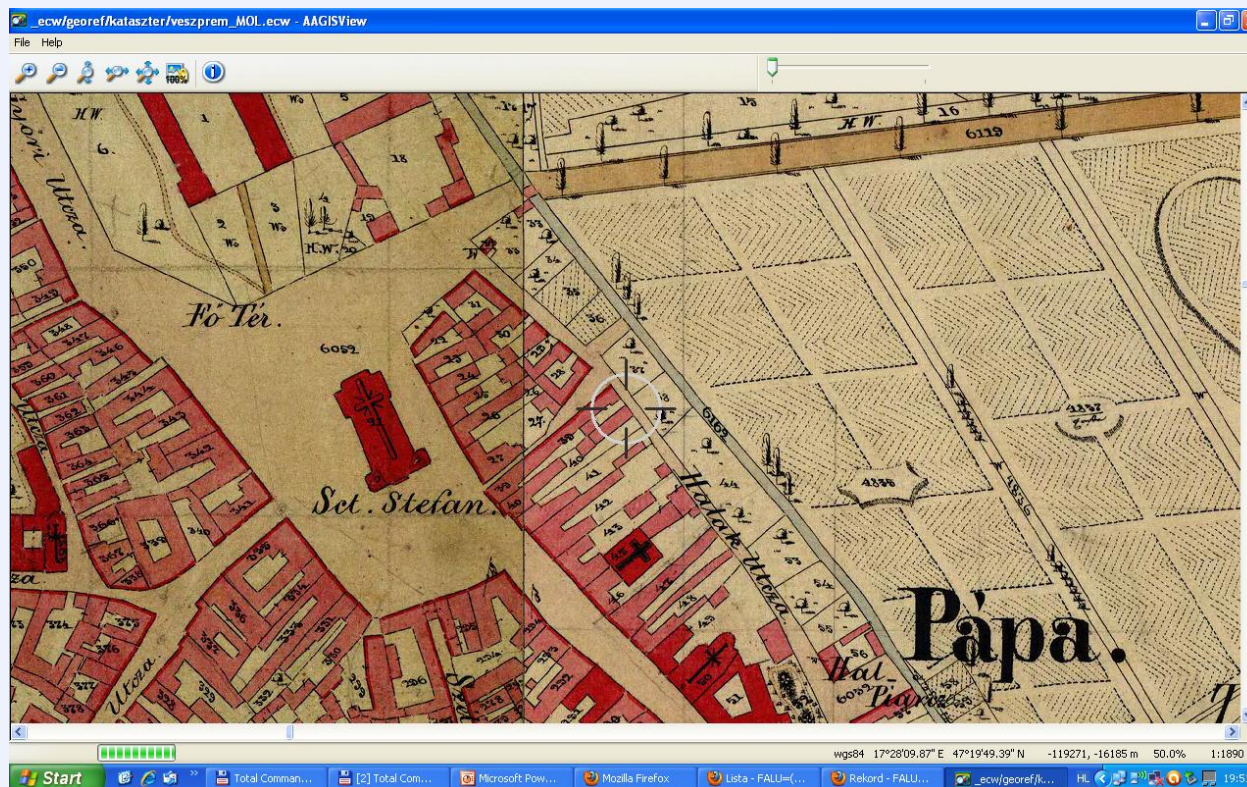


Interpretation

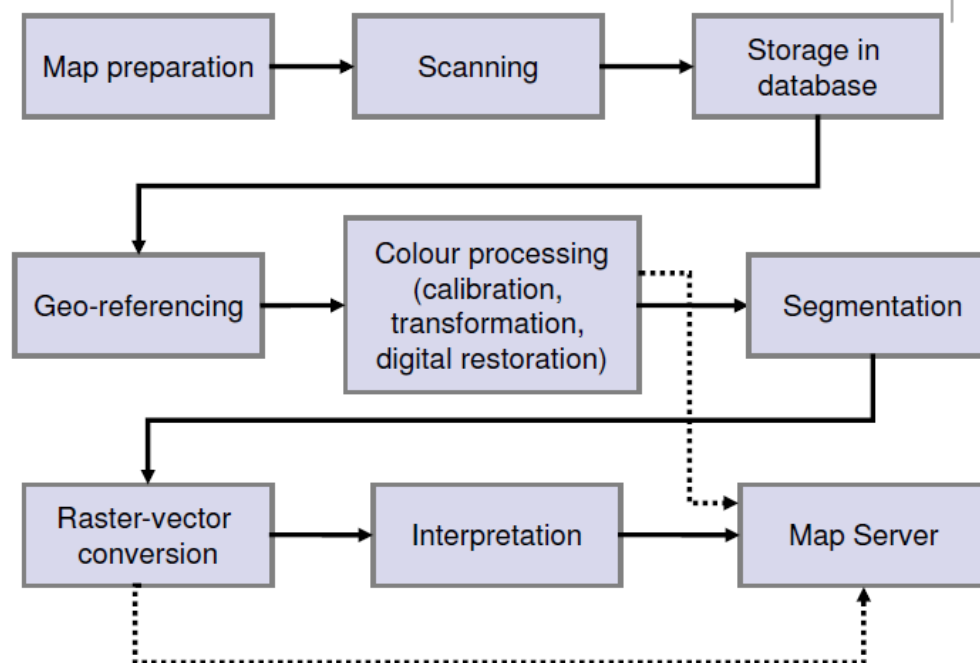
Raster – vector conversion

Recognition of objects (text, identifiers of plots, legends, colours; lines and polygons)
– create vector representations that can be imported into GIS systems

Extraction of metadata embedded in maps (text, numbers, graphics, colour, etc.)



Intelligent map making process (from raster image to knowledge)





ICARUS is organized as an association under Austrian Law, consisting of more than 120 public bodies from 23 European states and Canada.

Purpose:

1. Supporting the archives in facing the challenges regarding IT.
2. Coordination of international and transnational collaboration between archives and other cultural and scientific institutions.
3. Support of archives in the form of project initiation and project processing.
4. Supply of digital platforms and non-commercial services for project realization.



European Network on Archival Cooperation

The project supported by the Culture 2007 – 2013 Programme of the European Union is implemented by the collaboration of 13 project partners from 10 countries (AT, HU, SK, CZ, SI, HR, RS, DE, ES, IT).

The activities include:

- Digitising and indexing activities
- Integrating digital content into existing national and supranational portals
- Creating online access to important European cultural assets
- Further developing collaborative tools (web 2.0) for the indexing of individual archival records
- Developing and arranging training courses for archivists with a focus on IT, digitisation, and preservation/ restoration
- Disseminating project results on a large scale in order to reach as many European citizens as possible



<http://enarc.icar-us.eu/>