“Cadastre Made in Austria:
200 years development in quick motion”

CVC Vienna, 5-6 October 2017
A journey over 200 years in 20 minutes…

• Important Milestones
• A chain of important decisions
• Steps by step development
• Process Cadastre and LR
• Characteristics of the Austrian Cadastre
• Ongoing Improvements
• Upcoming Innovations
Important Milestones

“Milestones are important to emphasize and embrace” (F. Zetterquist, Sweden)

- 1817: Land Tax Act (Grundsteuerpatent)
- 1871: Land Registry Act
- 1883: Land Cadastre Act (Evidenzhaltungsgesetz)
- 1968: Surveying Act
- 1981: Real Estate Database
- 2004: Digital Cadastral Map
- 2005: eGeodata – Austria
- 2012: Electronic Entry Process, Cadastral processing
The Role of the Franciscan Cadastre in the 19th Century

• The Civil Code (1811), the foundation of the National Bank (1816) and the Land Tax Act (1817) were the political fundament of a new financing system
• FC was fundament of redevelopment of taxation and part of initiative for reform of the state
• Scharr (2014): Legal and political targets of the FC were the building of a unique legal framework for taxation in the provinces of the monarchy > establishment of a uniform economic region > important step to a modern state
A chain of important decisions

- 1817: start with a reference system and survey every single parcel > a complete register
- Implementation of Austrian Land Register (“Grundbuch”, 1871) > Cadastre as precondition (> parcels)
- Permanent updating process and mutual data exchange between Cadastre and Land Register (since 1883)
- Extension from tax purpose of the Cadastre to legal Cadastre (“Grenzkataster”): legal coordinates (1968)
A chain of important decisions

- Cadastre as a register for many purpose of public administration (planning,…..) and infrastructure companies
- A constant adaptation to the technical and economic conditions
  - innovation in technique of measurement and data processing
- Digitalisation of the Cadastre since more than 60 years
  - data on punched cards…..
  - Reale Estate database
  - Cadastral Processing System
  - Virtual workplaces
  - Digitization of old maps and surveying documents
  - Structured surveying documents
- C + LR is public information
From Plane table ...
... to a developed digital system
From Land Tax Cadastre

- Land Tax Act 1817
- Basis for taxation of agricultural land
- Surveying of all parcels by means of plane table
- Graphic documentation in the cadastral map
- Descriptive information in tables
… to Cadastre of Boundaries (legal cadastre)

Is not a new cadastral system, but:

- parcel boundary is **legally binding**
  - protection of good faith
  - in case of boundary dispute, the surveying authority is in charge (not the court of justice!)
  - „Cadastre of coordinates“

- negotiation with owners > **signature** by owners > surveying (coordinates) > surveying document
  - licensed surveyor or cadastral office

- Legal certification by cadastral authority

- **Precondition** for registration process

- Currently 16 % of all parcels
  - Step by step approach
From a documentation system …

- The Cadastre served primarily the representation of the relative position of parcels.
- The cadastral map was a picture with very little legal relevance.
- The archive of documents was legally significant.
- Updating of the Cadastre therefore had low priority and was carried out only once a year.
....to an information system ...

- Public authorities and infrastructure companies started using the Digital Cadastral Map as basic/part of an Information system.
- changed the requirements of CAD to GIS.
- topological structures enabled the intersection and integration with other data
  - e.g. Real estate database, zoning, ...
- Electronic process from the authorized surveyors to the registers.
Process Cadastre - Land register

• Via electronic request application
  – Mandatory for notaries, layers
  – Cadastral Offices
• Safe access via secure code
• One single and authentic reference document (subdivision document)
  – archived in the central registry of the BEV
• Update of the Cadastre immediately following the decision of the LR
  – no more waiting for analogue copies
• Enabled by the pre-execution layer
  – pre-execution of graphic data in the special layer of the Cadastral map
• “No” time lag between Cadastre + LR
Characteristics of the Austrian Cadastre

- Good example for working Public and Private
- Large scale map
  - National coverage with identical definition
  - Homogeneous data set
  - (very) Good accuracy
- “Real time” - maintenance
- High availability (24/7)
  - all data available in digital form
  - Data are public and accessible to everyone
  - Full record of any changes concerning parcels since 1883
Cadastre is also used for …….
Ongoing improvements in the Cadastre

• Scanning the cadastral archive
  – more than 5 Mill. surveying documents
  – from 1883-2012

• Develop structured surveying document
  – Extract descriptive information from the pdf- document
  – 1. step towards electronic object- change

• Semi-automatic process to update land cover information in the Cadastre

• Homogenize the fixed points system
  – More than 250 000 reference points in ETRS

• Prepare transfer to an new reference system
  – from MGI (national system, Gauß-Krüger) to UTM
Upcoming Innovations..??

• Permanent improvement of institutional cooperation
  – from separated analogue single-processes to integrated digital processes

• Extension of functionality of objects/rights: spatial determination of urban infrastructure;
  – 3D, Public Rights and Restrictions, …

• Cadastre closer connected to market needs
  – new services with market relevant content

• Innovative tools to visualize cadastral /LR information
If the wind of change blows, some will build windmills, the others walls!

(Chinese saying)
Thank you!

Austrian cultural heritage

200 Years Cadastre

See you: www.bev.gv.at