



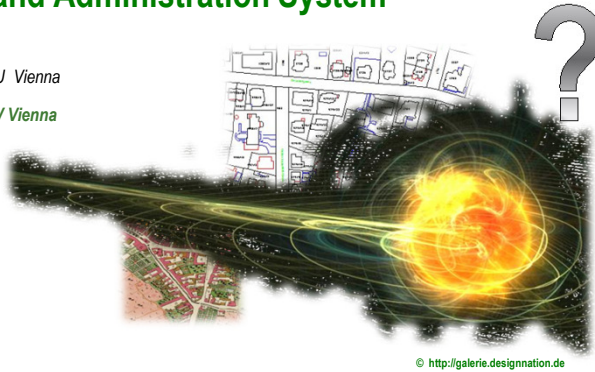
Development and Potential for Improvements of the Austrian Land Administration System

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Content



- Introduction
- Dynamic Framework of Land Administration
- Innovations in Austria (Examples)
 - Milestones
 - Potentials
- Conclusions and Final Remarks

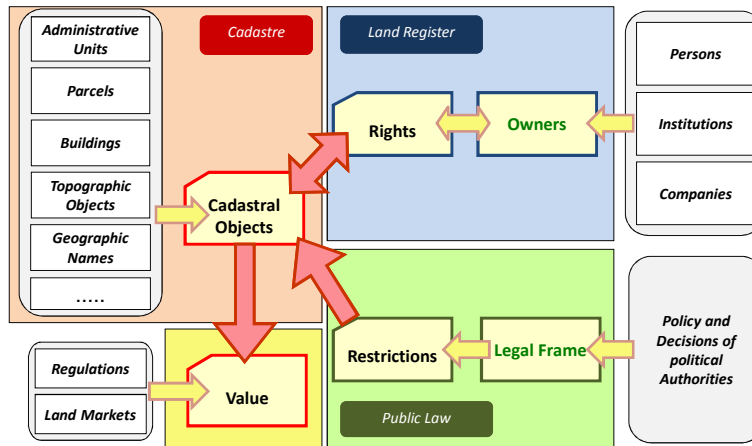


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Land Administration: Definition - Purpose - Components

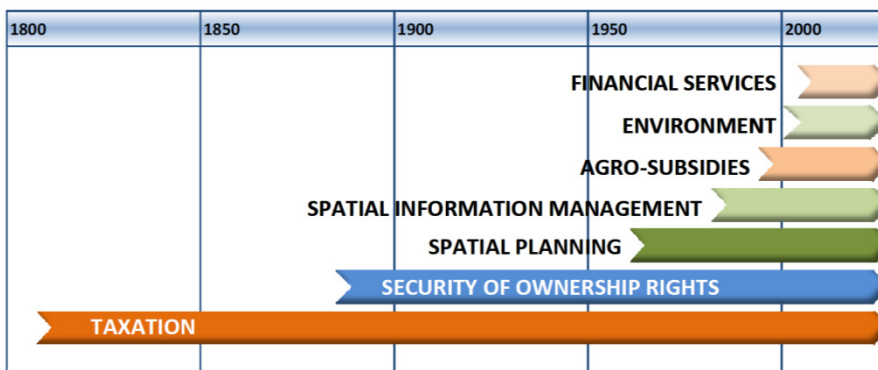


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Dynamic Framework of Land Administration



© adapted from Muggenhuber & Twaroch, 2008



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Innovation and Economic Development

Growth and Development by:

- **Exploration:** (natural) resources, land
- **Optimization:** improved use of available resources
- **Innovation:** new technology, business processes, approaches
 - radical vs. incremental business process innovations
 - e-business - standards - tremendous coordination / negotiation



1700-1829 Industrial Revolution:

UK → GDP +36%

USA → GDP +110-139%

1950-2008:

USA → GDP + 226%

Singapore → GDP +1160%

Benefits from innovation: only long term, forerunners are not benefitting most

Framework required: competitive economy, secure (legal) framework, freedom to act



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International Trends in Land Administration

- **Cadastral Surveys** : From verbal description of boundaries to accurately defined (surveyed) boundary points
- **Organic Cadastre:** From accurately defined (surveyed) ownership / interest to „organic natural environment by enabling fuzzy and dynamic boundary definitions“
- **Object-Oriented Cadastre:** From documentation of parcels to documentation of real estates (including buildings, apartments)
- **Multi-Dimensional Cadastre:** Modelling in 2-3-4 Dim.
- **Real-Time Cadastre:** From sporadic to real time updates
- **e-Government:** From office hours to 24/7 availability



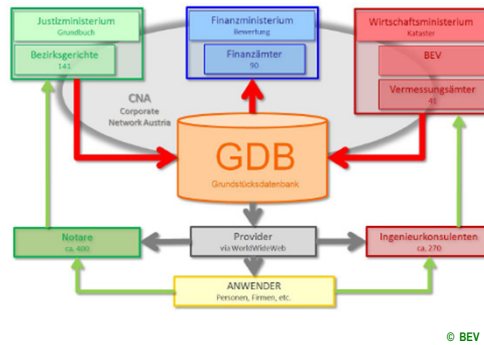
following Bennett et al., FIG Sydney 2010



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Process-Innovation Milestones (Extract)

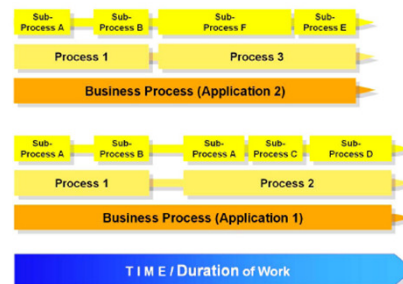
- 1883: Maintenance of land administration data (Evidenzhaltungsgesetz)
- 1978: Implementation of the Parcel Data Base (GDB)
- 1984: Digitizing processes
- 2000: Updating postal addresses of parcels (Public-public Partnership)



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Process-Innovation Potentials (Extract)

- Standardisation of processes and products (shifting mind-set → communication)
- Digital workflow bridging traditional institutional barriers
- Cross-organisational processes as an alternative to organizational changes



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Organisational Innovation Milestones – Potentials (Extract)



- 1888: Implementation of the system of private licensed surveyors
- 1921: Merge of institutions (military mapping, cadastral and geodetic surveying)
- 1968: Public-Private-Partnership
- Virtual (inter-institutional) cooperation based on ICT



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Technology-Innovation Milestones – Potentials (Extract)



- 1950: First step of automation – IT based on punch cards
- 2000: Implementation of web-based services



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- Harmonization of European Reference Systems
- New technologies / approaches for data acquisition



- Integrated Surveying Software (Coordinates)
- Automatic Target Recognition (Reflector)
- Graphic Display



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Marketing-Innovation Milestones – Potentials (Extract)



- Site and time-independent public access (24/7) to countrywide land register and cadastral data (1984) and to cadastral maps (2004)
- 2000: Geoland-Portal
- 2008: e-geodata Austria
- Cadastre - part of the national infrastructure (eGov)
- Provision of new services and product for an extended clientele (LBS, i-Kataster®)



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Conclusions



- Concepts of Austrian land administration systems is based on more than 200 years of continuous improvements, often initiated by the changing needs of society
- Technological developments have typically led to process innovation
- Continuous innovation is an indispensable ingredient for an efficient and sustainable use of the resource land
- Innovation requires a lot of resources and thus often meets resistance

„... *If I had asked people what they want, they would have said faster horses*”

Henry Ford



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THANK YOU FOR YOUR ATTENTION



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