



Comparison and Evaluation of Mature Cadastral Systems

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Introduction

- Comparing and evaluating is a useful tool to improve cadastral systems
- Tools for comparison need to be kept up-to-date to new features
 - > We propose a framework for comparing and evaluating mature cadastral systems specifically

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Methods and materials

Developing the framework

- A hermeneutic literature review
 - research papers, conference papers, dissertations, etc.
- A holistic approach: legal, technical, and organisational aspects
- -> Framework with six themes and 23 features

Illustrating the framework's applicability

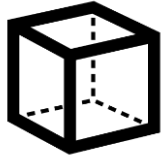
- A case study with 6 countries:
 - Finland, the Netherlands, New Zealand, Lithuania, Denmark, Sweden
 - Interviews with land use experts from each country
- Analysis of the interview data using the framework

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3D Land administration

1. Possibility of 3D registration
2. Implementation of 3D registration
3. Limitations of 3D registration
4. Utilisation of 3D registration
5. Registration of 3D RRR

Full 3D cadastre?

Limited height
information?

Three-
dimensional
thinking across
institutions

3D in urban
areas or
everywhere?

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Temporal cadastre

6. Changes over time in the cadastre

7. Registration of temporary or terminable rights or boundaries

Usefulness and
accessibility of
historical cadastral
information

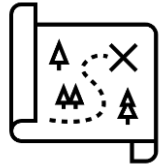
Changing natural
environments

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Multipurpose cadastral system

- 8. Rights, restrictions and responsibilities (RRR)
- 9. Registration of land use plans and building prohibitions
- 10. Registration of utilities
- 11. Cadastre as a part of taxation systems

Wide variety of RRR vs. only basic real rights

Other registers utilizing cadastral data

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Quality and interoperability

- 12. Up-to-dateness of the information
- 13. Accuracy of spatial definitions
- 14. Reliability of the information
- 15. Interoperability with other systems

Challenges with long transactions

Responsibility for errors

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Institutional environment

- 16. Involvement of the public sector
- 17. Involvement of the private sector
- 18. Involvement of political institutions
- 19. Funding of cadastral systems

Public or private surveyors?

Fee-based and budget-based funding

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A black icon representing a network of people, with several circles connected by lines, each containing a smaller circle with a person silhouette.

Users and services

- 20. Distribution of data for external users
- 21. Fees and open data
- 22. User groups of cadastral data
- 23. Services based on cadastral data

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Issues with open data: openness vs. security

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Need for complex solutions

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Conclusions

- Holistic evaluation is needed to understand the complex relationships between different aspects of the systems
- Both operational environments and the contents of the systems should be considered when comparing the systems

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Thank you!

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