
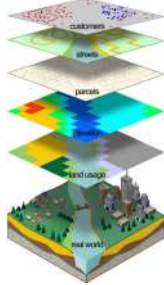

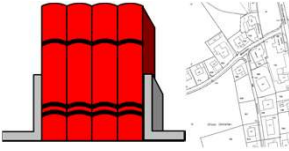



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From a Traditional to a Comprehensive Cadastre



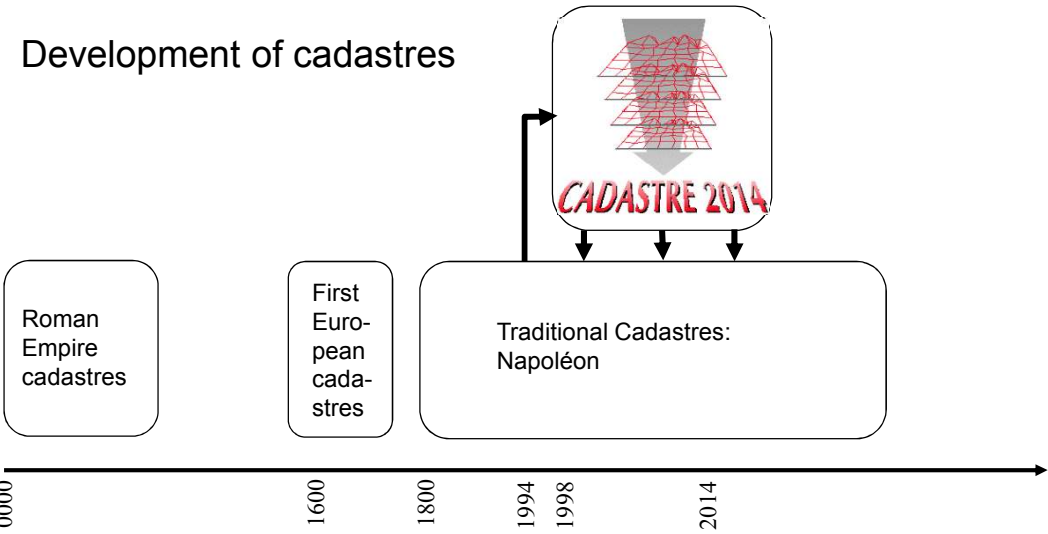
1. DEVELOPMENT OF CADASTRES
2. STRUCTURE OF THE COMPREHENSIVE CADASTRE
3. PRECONDITION FOR THE COMPREHENSIVE CADASTRE
4. STEPS TO IMPLEMENT A COMPREHENSIVE CADASTRE SUCCESSFULLY
5. CONCLUSION

From a Traditional to a Comprehensive Cadastre- 1 -Istanbul, April 2015




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Development of cadastres



The diagram shows a horizontal timeline from 0000 to 2014. Three boxes represent 'Roman Empire cadastres' (0000-1600), 'First European cadastres' (1600-1800), and 'Traditional Cadastres: Napoléon' (1800-1998). An arrow points from the 'Traditional Cadastres' box to a box labeled 'CADASTRE 2014' which contains a 3D grid icon. Three arrows point from the 'CADASTRE 2014' box down to the timeline at 1994, 1998, and 2014.

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The six statements of Cadstre 2014

Statement 1 – Cadastre 2014 will show the complete legal situation in land, including public rights and restrictions.

Statement 2 – The separation between maps and registers will be abolished.

Statement 3 – Cadastre Mapping will be dead – long live modelling

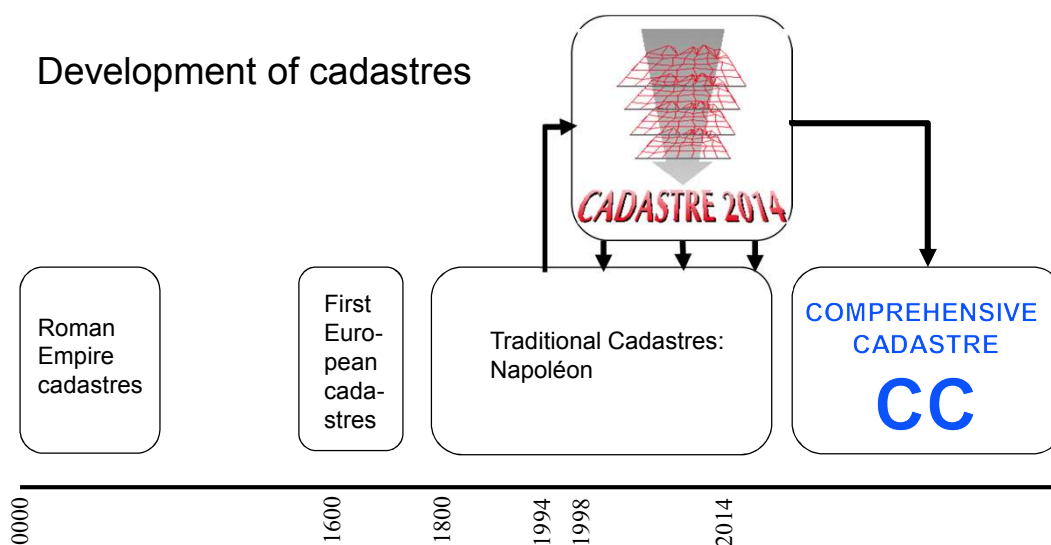
Statement 4 – Paper and Pencil Cadastre will have gone.

Statement 5 – Cadastre 2014 will be highly privatized! Public and private sector working closely together.

Statement 6 – Cadastre 2014 will be cost recovering.



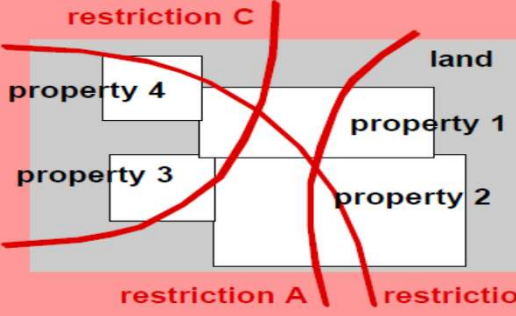
Development of cadastres



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Statement 1 on Cadastre 2014

Cadastre 2014 will show the complete legal situation of land, including public rights and restrictions!



Comment: The population of the world is growing. The consumption of land is increasing. The absolute control of the individual or of legal entities of land is increasingly being restricted by public interest. To provide security of the land tenure, all facts about land must be made obvious by the cadastral system of the future.

Consequences: A new thematic model is necessary. Surveyors must take into consideration public law.

From a Traditional to a Comprehensive Cadastre
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The principle of legal independance

Legal Topics:	Legal Object Boundaries:	Rightful Claimants:
.....	
Resource exploitation		Chartered company
Collective land rights		Corporation
Water protection		Society
Traditional rights		Tribe, Clan
Environmental protection		Society
Land use planning		Society
Land property		Private Land Owners
Topography		Society
Natural resources		Society
Natural land objects		Society

From a Traditional to a Comprehensive Cadastre
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9 steps to achieve a Comprehensive Cadastre (CC)

1. Introduce the possibility for the CC in your legal framework
2. Develop a short enactment on the CC
3. Introduce data and representation modeling as mandatory
4. Determine a responsible authority for the CC
5. Scan your legal framework including traditional rules
6. Identify the stakeholders
7. Create data models for all legal topics included into the CC
8. Identify the procedures for the definition of legal arrangements
9. Develop a feasible IT-Infrastructure



Introduce the possibility for the CC in your legal framework

Switzerland: Cadastre on Public Law Restrictions (PLR-Cadastre)

Art. 16 Subject matter and form

- 1 The Cadastre of public-law restrictions shall contain public-law restrictions on landownership rights which, in accordance with the provisions of the Civil Code, are not part of the Land Register.
- 2 The Federal Council determines which official geodata under federal legislation are entered in the Cadastre of public-law restrictions.
- 3 The cantons may define additional official geodata of proprietary nature that must be recorded in the Cadastre of public-law restrictions.
- 4 The Cadastre of public-law restrictions shall be made available in electronic form either online or by any other method.
- 5 The Federal Council shall determine the minimum requirements with regard to the organisation, management, data harmonisation, methods and processes for the Cadastre of public-law restrictions.



Develop a short enactment on the CC

Switzerland: Content of the Ordinance on The Cadastre of public-right Restrictions of the Landownership

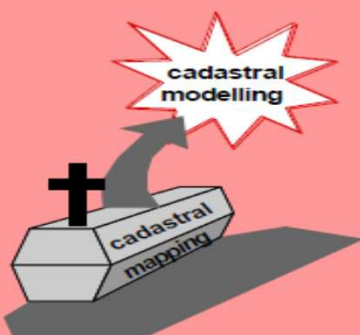
33 articles!

Section 1:	General provisions
Section 2:	Content and Information
Section 3:	Inclusion into the Cadastre
Section 4:	Forms of Access
Section 5:	Authentication
Section 6:	Function as official gazette
Section 7:	Organization
Section 8:	Financing
Section 9:	Participation
Section 10:	Final Provisions



Introduce data and representation modeling as mandatory

Statement 3 on Cadastre 2014



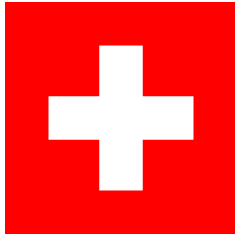
**The Cadastral mapping will be dead!
Long live modelling!**

Comment: Maps have always been models, but the available technology did not allow for the use of these models in a flexible manner. So in mapping flexibility had to be brought in by different scales. Different scales had to be represented by different data models. Modern technology allows the creation of maps of different scales and registers in different forms from the the same data model.

Consequences: In 2014 there will be no draftmen and cartographers in the domain of cadastre.



Determine a responsible authority for the CC



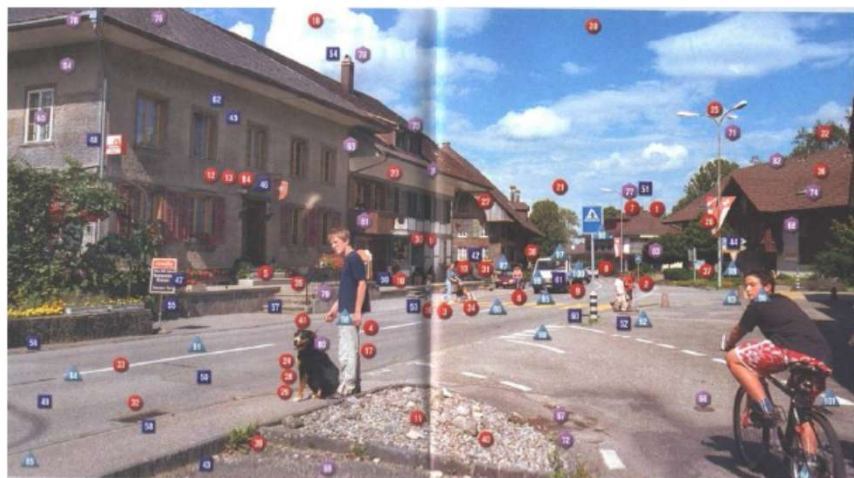
Federal Office of Topography swisstopo
Official Surveying Switzerland



Scan your legal framework including traditional rules

Switzerland:
Legal framework
Scan shows
158 restrictions
on federal level

101 laws are to
Be respected
in this scene



Identify the stakeholders

The responsible authorities are designated by the legal framework

Swiss Act on geoinformation

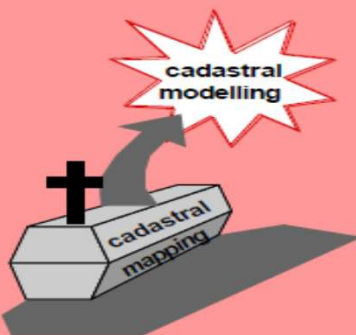
Art. 8 Responsibility, freedom of method

1 The legislation shall identify the authorities responsible for the collection, updating and management of the relevant official geodata. In the absence of specific regulations, this responsibility is that of the specialist authority at federal or cantonal level responsible for the specialist field to which this official geodata relates.



Create data models for all legal topics included into the CC

Statement 3 on Cadastre 2014




**The Cadastral mapping will be dead!
Long live modelling!**

Comment: Maps have always been models, but the available technology did not allow for the use of these models in a flexible manner. So in mapping flexibility had to be brought in by different scales. Different scales had to be represented by different data models. Modern technology allows the creation of maps of different scales and registers in different forms from the the same data model.

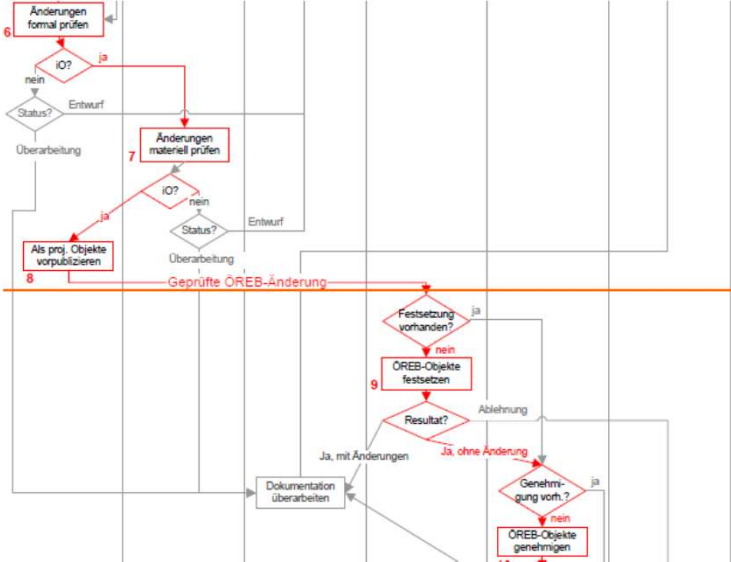
Consequences: In 2014 there will be no draftmen and cartographers in the domain of cadastre.




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Identify the procedures for the definition of legal arrangements

Procedures for the Definition of legal Arrangements



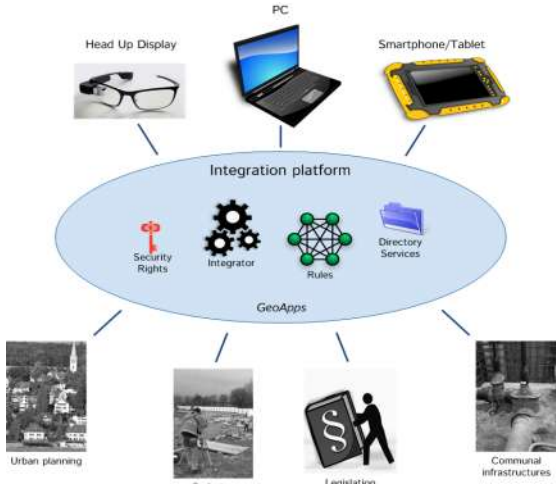
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Develop a feasible IT-Infrastructure

Switzerland GeoApp: A modern Web-Application approach



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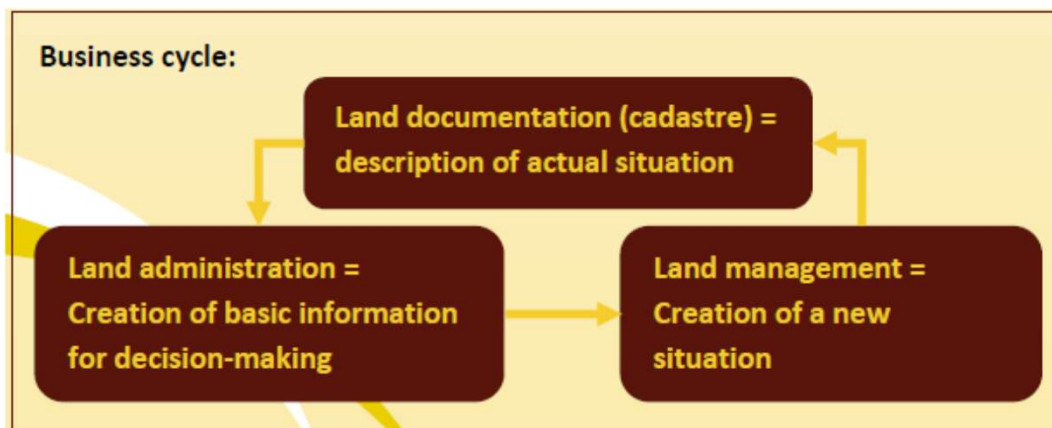
Istanbul, April 2015 

Summary: 9 steps to achieve a Comprehensive Cadastre (CC)

1. Introduce the possibility for the CC in your legal framework
2. Develop a short enactment on the CC
3. Introduce data and representation modeling as mandatory
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9. Develop a feasible IT-Infrastructure



Comprehensive Cadastre – the basic tool for sustainable land management



World Cadastre Summit

Jürg Kaufmann



Thank you for your attention

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www.swisslm.ch

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Istanbul, April 2015

