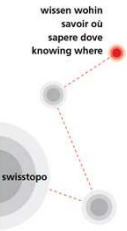


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Dimension Cadastre – Stepping Beyond Limits

Dr. Daniel Steudler

FIG-Working Week 2015

17-21 May 2015, Sofia, Bulgaria

Background

- Think Tank active since 2012;
- aim is to identify the current trends in the geoinformation field and to develop a strategy for the cadastre;
- Swiss cadastral system is well advanced: digital, well conceptualized, close to full coverage, legally comprehensive;
- issues in Switzerland are mainly organizational (federalist environment) and structural;
- a first result of the Think Tank is a Discussion Paper published in May 2014
 - to identify trends and developments
 - to open eyes and minds of professionals



available in 4 languages
www.cadastre.ch/vision/

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Changing World

- from drawing board and pencil to computer technology
- from terrestrial measurements to photogrammetry and GNSS
- from analogue to digital
- from paper maps to databases to knowledge bases
- technology push vs. citizen pull
- trend from written word to imagery
- social media
- Big Data, Data Mining
- geolocalization becomes mainstream
- legitimacy often prevails legality



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Objects of the Cadastre

- traditionally, the cadastre provides legal security of landownership and represents objects such as parcels, buildings, and structures;
- new categories come into being, e.g. polluted sites, land-use zoning, zones exposed to noise, etc.
- the Internet brings along social change, increasing involvement of the public (open data, apps, open source software, social networks);
- rise of radical new approaches, namely a society driven more by legitimate than legal impetus.

**The legitimate
often prevails
over the legal**

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Big Data and Data Mining



© C. Moullet

Data mining is going to speed up the mass exploitation of "big data"

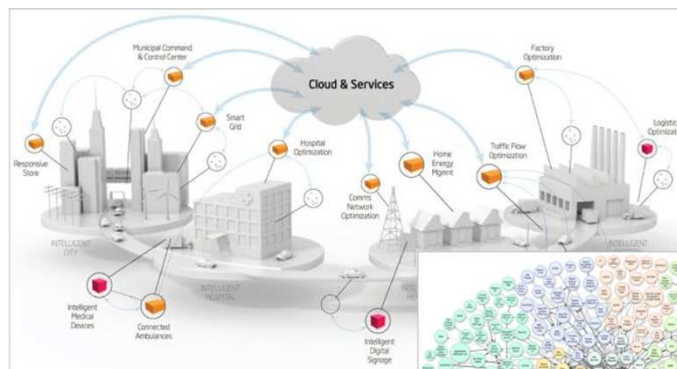


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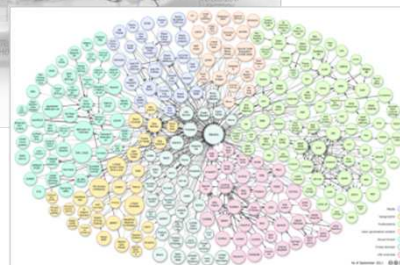
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Internet of Things and Linked Data



© <http://eecatalog.com>



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Ubiquitous Mobility



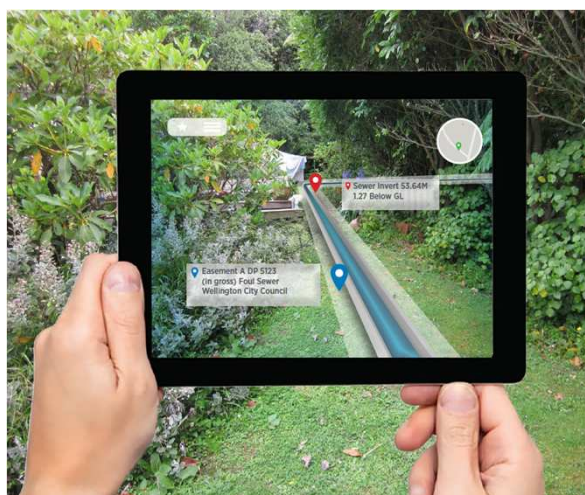
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Making the invisible visible...



From:
Cadastre 2034 – A 10-20 Year Strategy
for developing the cadastral system



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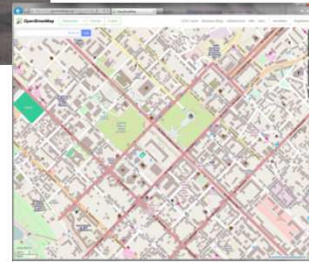


Crowd-sourcing, Augmented Citizen



© <http://www.geoawesomeness.com>

Citizens as the
nation's number one
geomaticians!



© <http://www.openstreetmap.org>

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The new "Common Property"

- public sector information was so far the standard for knowledge on land and its legal status;
- private initiatives are producing new data collections, such as e.g. footpaths, OpenStreetMap, GoogleStreetView, eBird.org, virtual visits to tourist destinations, etc. → all eventually becoming a knowledge base used by society at large;
- the combination of both – public and private – information sets will yield additional value to the knowledge base of the land and territory.

→ New "Common Property" of shared knowledge, i.e. public and open know-how

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Cadastre is increasingly of dynamic nature

Developments that potentially have considerable impact on the Cadastre:

- satellite imagery on an almost daily basis;
- away from paper-based to object-based data models;
- increasing number of updates and acceleration of processing time;
- more complete picture of legal situation (→ 3D), not only above ground, but very much also underground;
- status of cadastre at different times (→ 4D), in order to produce virtual simulations over time.



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Further identified issues

Numerous political decisions depend on official data

Sooner or later it will be necessary to regulate algorithms

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Conclusions

- there are trends and developments, which cannot be ignored;
- increasingly dynamic world;
- drivers are the technology-push, as well as the pull by citizen involvement (crowd-sourcing, augmented citizen);
- the public sector – responsible for a public good, called the cadastre – needs to consider, how to deal with citizen-driven input (which, in some cases, is more efficient);
- the public sector needs to re-focus its role.



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FIG Working Week Switzerland 2019



Get to know us

**Come along, have a
drink, and get
surprised!!!**

**Wednesday, 20 May,
17h30-18h30
at
"Culture Beat"**

