Cadastre 4.0 - Empowering the community to be part of the procedures

Gerda Schennach, Austria
Chair of FIG Commission 7

FIG Commission 7 and 9
Annual Conference and Meeting
4th – 8th December 2017 - Cartagena Colombia

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200 years of innovation

Fiscal | Legal | Local | Digital

Taxation → Land Tenure → Boundaries → Information →→
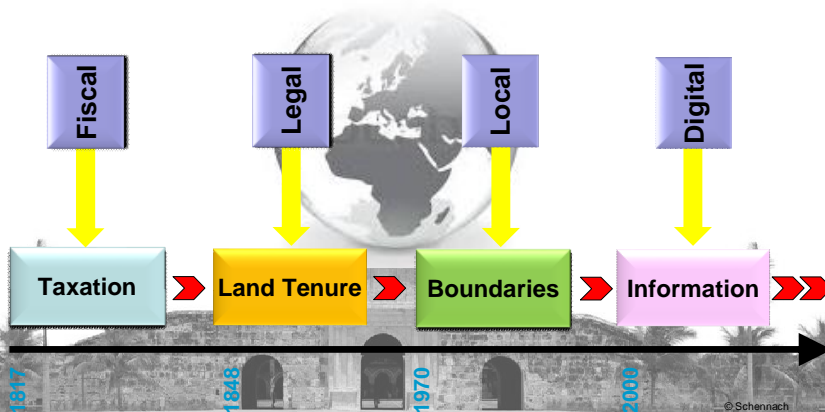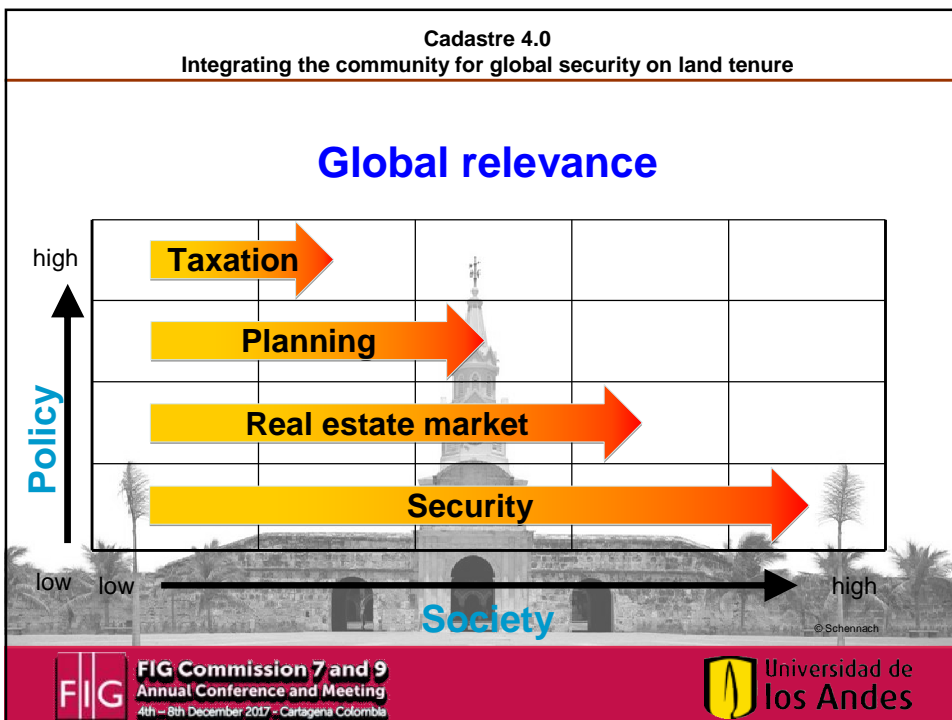
1817   1848   1970   2000

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Cadastre 4.0
Integrating the community for global security on land tenure

Taxation
- affordable to owners
- individuals vers. investors
- ownership/leasehold/rent
- double taxation
- property costs
- taxation of value / income
- facilitate investments
- steer property markets

Planning
- personal interests
- loss of value / income
- customer needs
- housing policy
- investments
- secure land for locals

Real estate market
- informal markets
- impact on existing value
- poverty prevention
- economy
- profit making investors
- private vers. public

Security
- long-term investments
- loans, compensation
- trust, transparency
- responsibility
- reduce risks
- long-term investments

Social aspects

political aspects

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Cadastre 4.0
Integrating the community for global security on land tenure

Global relevance

high

Taxation

Planning

Real estate market

Security

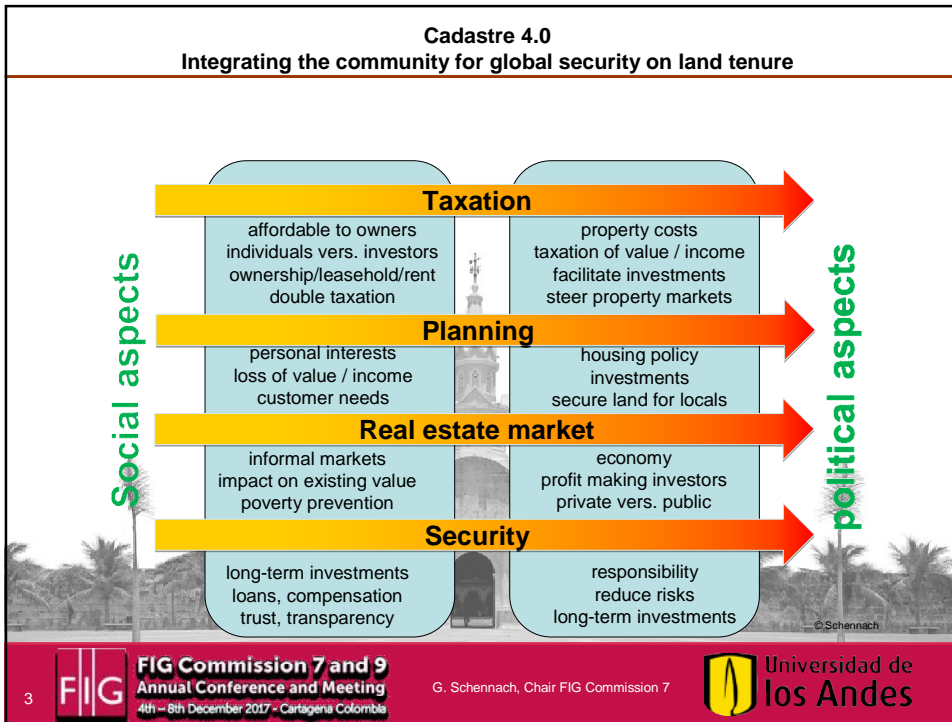Policy

low   low

Society

high

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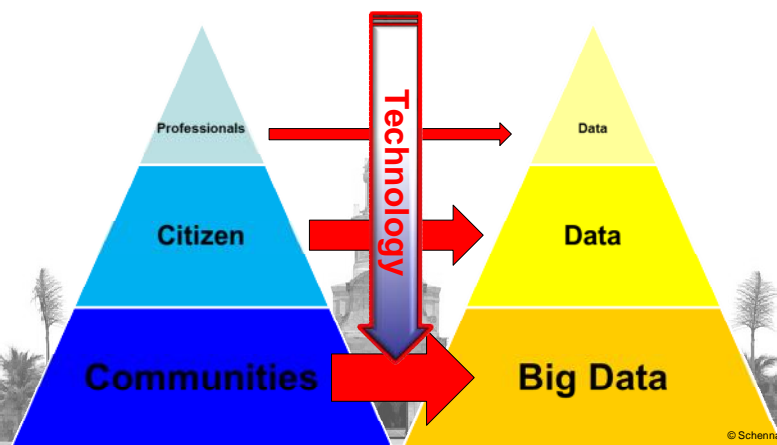4th – 8th December 2017 - Cartagena Colombia

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What about technology?

- Ø internet of things / VGI / sensors e.a.
- Ø everyone produces and publishes everything
- Ø data are accessible for everyone and become a public (community) good
- Ø data reflect visible world ≠ legal status
- Ø smart procedures for selective processing of big data
- Ø smart systems – automatic acquisition of data and information
- Ø work is no longer bound to location of land
- Ø users (land owners) equal partners in systems
- Ø users (land owners) may be big players in systems

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Data acquisition

Technology

Professionals — Data
Citizen — Data
Communities — Big Data

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New business models

- Ø communities produce **substitutes**
- Ø society is user **and** producer
- Ø open government data vers. open data
- Ø **ownership of data** (citizen, third party, community data…) and structures (hosts, clouds…..)
- Ø financing / self-financing / cost-benefit models
- Ø **shift of power** from public authorities to communities/citizen
- Ø distributed responsibility models
- Ø public authorities take role as facilitator and moderator
- Ø **users** equal partners in systems
- Ø change of paradigm for professionals

The changing paradigm

Cadastre for Society gets created by Society
- Ø **technology** is available and cheap
- Ø **new type** user society growing
- Ø land owners get **active** information providers
- Ø citizen as **passive** data providers

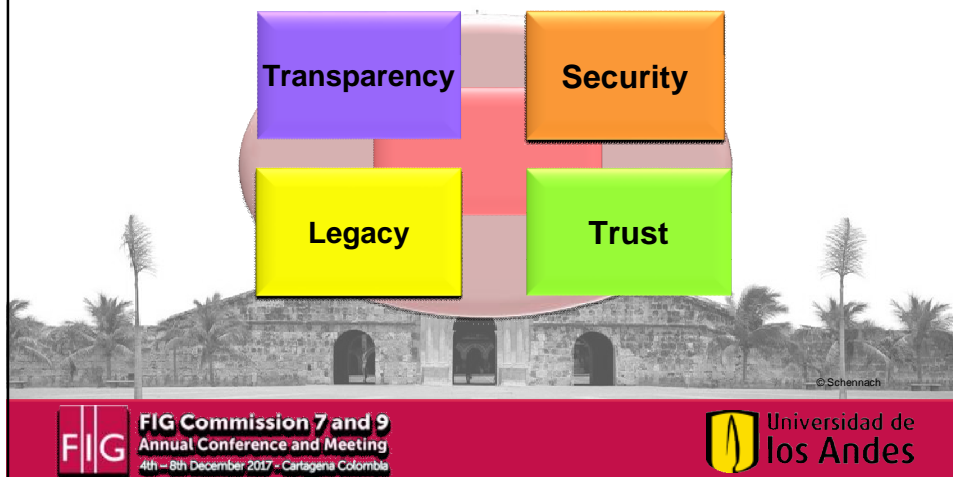**Stakeholders become Decisionmakers**
- Ø user profiles changing **communities**
- Ø community creates their own "**regulations**„
- Ø **standards** set by communities

Citizen become Shareholders
- Ø communities are **core part** of the (formal) processes
- Ø citizen are **owner** of information
- Ø **self-monitoring** systems secure fit-for-purpose - quality

The 4 basic principles of cadastre

Transparency

Security

Legacy

Trust

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Cadastre 4.0

- Ø services on demand by users provide **legacy** (cultural variety)
- Ø flexible processes – defined in moment of request
- Ø self optimising processes increase **security** for users
- Ø datasets know at their creation where they will be integrated
- Ø system finds data which is needed/appropriate from relevant data sources and creates product/service
- Ø **transparent** to users ► citizen ► land owners
- Ø infrastructures and potential of systems for big data mgt.
- Ø decentralised steering on demand (authentity)
- Ø users and stakeholders intervene directly into the processes
- Ø self-monitoring systems create **trust** (blockchain)

Cadastre 4.0

Cadastre 4.0 is a system based on fully automatically processing within a network surrounding of people and devices embedded in technological intelligence

The aim is to get to a self-operating structure built upon intelligent devices and procedures and data collections where the demand is defining the process instead of building 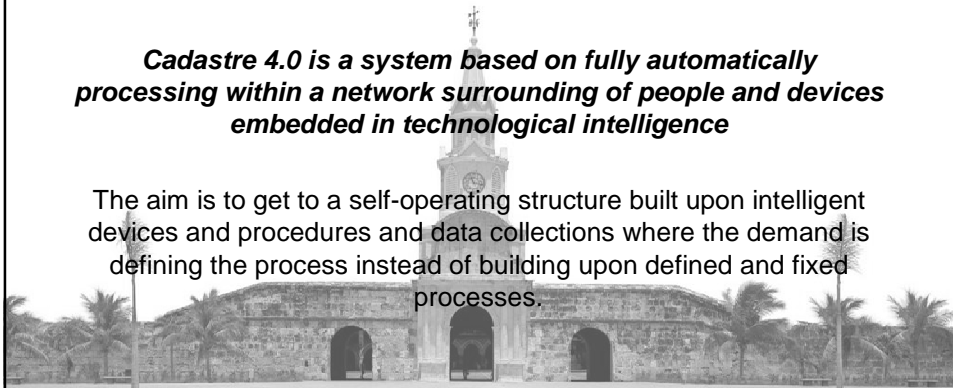upon defined and fixed processes.