SPATIAL DATA POLICY AND LEGAL ASPECTS SUPPORTING SMART FUTURE CITIES

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UNITED NATIONS-FIG BATHURST DECLARATION ON SUSTAINABLE DEVELOPMENT

Good information → Better policy → Better land administration → Sustainable Development

Policy → Data → Sharing → Environmental → Sustainability → Spatial Enablement
Key Drivers

- Population Growth & Increasing urban complexity;
- Connected, automated and shared services;
- Digital Economy;
- **Needs and opportunities** in the context of future cities;
- 3D land and property info to support future planning and management of urban environment (e.g. leveraging BIM, PIM) / vertical Living;
- Big Data and cybersecurity;
- Making sense of **smart data**, smart utilities, 4D data.

Latest Events

27-28 September 2016, The University of Melbourne, Australia

10-14 October
Major Outcomes...

Spatial Data  3DCadastre
Community Space Indoor ISO Analytics
Opendata Design Visualisation
GIS eGovernance Transport Sustainable
OGC IoT BIM BigData
Smart ICT 3DCity
Data Policy Engagement
Sensors Connected Society
Shared Data

THE 2030 AGENDA and SDGs

NEED TO LINK LAND AND PROTECT RESOURCES
BY 2030...

“Make cities and human settlements inclusive, safe, resilient and sustainable.”

Indicators:
• Housing and basic services
• Transport systems and road safety
• Inclusive and sustainable urbanisation
• Protect and safeguard cultural and natural heritage
• Reduce impact of disasters; Hyogo framework
• Reduce environmental impact of cities
• Access to green and public spaces
• National and regional planning
• Sustainable and resilient buildings using local materials

By 2030...

60 % world’s population will live in cities

“Cities will play a key role in the success of achieving SDGs”

– Habitat III

60 % global GDP

(Adopted from Dobbs et al., 2011; Bruton et al., 2013)
Urbanisation Trend will Continue
Increasing Vertical Development

How can we accurately and readily identify all property rights, restrictions and responsibilities?
Multi-scale Analytic Platform

This requires spatially accurate map-base and cadastre as a foundation.

Complex Urban Interdependencies

Cadastre & SDI – the backbone in efficient urban government and governance.
SDI in Support of Smart Cities

HYPER-CONNECTED CITIES

This requires good policies and legal framework as a foundation.

Spatial Data Infrastructures

Why do SDI initiatives need policies?

Multiple stakeholders

Multiple drivers for action

Not necessarily a good outcome for all

- Technical issues
  - lack of data, standards, metadata, search engines, communication networks/bandwidth
- Economic/financial issues
  - cost, cost sharing
- Social/institutional/organisational issues
  - awareness, education, pricing, security, freedom of access
- Political/legal issues
  - sensitive data, intellectual property

People  SDI  Data

Heterogeneous Environment
Challenge of Collective Action

SDI as a public problem

- What is the problem?
- When to act?
- Who should act?
- How to act?
- Social benefits vs. Private costs
- Multilateral commitment
- Achieving agreement in general

SDI requires good (public) policies.

What is the public interest in SDIs?
Should governments get involved?
What is the downside of government intervention?
Policy is dependent on culture and institutions.
Social groups and society at large are kept together through culture and institutions.
Regulative Pressure

“Over the next 30-40 years, it is estimated that Melbourne may require about one million more homes to meet the housing needs from population increase and from fewer people living in each home.”

Normative Pressures

3D as a new reality

http://www.mds.aps.com/services/building-information-modeling


http://www.mds-bos.com/services/building-information-modeling/
Key SDI Policy Issues

Legal aspects

- Liability (e.g. for incomplete or incorrect spatial data and information)
- Accessibility
- Privacy
- Protection of Investments (e.g. copyright)
- Transparency of Administration
- Discrimination to buyers
- Pricing
- Selling to third parties (Forbidden by contracts/Royalties)
- Commercialisation of public information

Legal Questions to be considered...

- What are the legislative conditions related to a data set
- What are related legal instruments?
- Is data affected by private rights (contract or property)?
- Does legal nature of data change when publication or a mix of sets occurs?
- Who bears risk of error, mismanagement, security breach?
- Can risks be eliminated? By what techniques?
- What are -
  - Appropriate financial instruments, corporate structures,
  - public, private, PPP?
  - appropriate information restrictions (privacy, contract, commercial in confidence etc)?
  - Secrecy and access clearances?
What decisions must be made for effective management?
Who will make those decisions?
How will decisions will be agreed, implemented, documented & managed?

Institutional dimension

Operational (technical) dimension

An interaction of

POLICIES AND AGREEMENTS (What?)

PROCESSES (How?)

DECISIONS (Who?)

Adapted from [Oracle SOA Governance White paper]

THANK YOU

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