Challenges ahead for spatial enablement

Meanings and motivations

Jude Wallace
Land administration systems that support land management and land markets produce information that is vital for social justice, economic growth and environmental sustainability. (Enemark)

But our land information is not organised and available.

What stops land information being used?
Hundreds of questions are asked every day

Tell me -
• Sites with owners’ corporations
• All sales in 6 months above $1m
• Land owned by non-citizens?
• Land not occupied by owner?
• Land owned by charities and not rateable?
• Mortgages to Westpac (in default)?
• Land subject to leases?
• Commercial land over 2000$^2$ lettable space?
LAND INFORMATION FROM REGISTRY PROCESSES
“OPIT”

OWNER
Name
Address,
DoB Type
Resident
Number

PARCEL ID.
{Property}
{Address}

INTEREST
Whole/Share
Duration
Type/Tenure

TRANSACTION
Inherit/Gift
Buy/Lease/Mortgage
Date
Value/Price

AAA

Spatially Enabled?
Registry AAA parcel information is spatial, but text information is non-spatial. Registries use different methods to “join the dots”.

<table>
<thead>
<tr>
<th>Accurate</th>
<th>Authoritative</th>
<th>Assured</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-ground accuracy is scientifically managed through surveying systems using reliable technology.</td>
<td>Information is legally authoritative and evidentiary in the justice system.</td>
<td>Information is assured by statutory functions, risk management systems, and, in case of Torrens and other successful systems, guaranteed.</td>
</tr>
</tbody>
</table>
Best practices: Netherlands
Integration of text and location information into the Key Registers
Australia’s land registries are too successful

19th century operational models modernised by 20th century computers to manage “rights” in land

Little government incentive to move registries to 21st century
Limited budgets for operational change

At the information supply side:
Clear signals about the “market” for spatially enabled AAA information are not available
What is spatial enablement?

Spatial enablement is a strategy or an understanding about how information is organised.

Organisation of information according to place
Not organisation of spatial information
An organisation is spatially enabled when

- Spatial systems are intrinsic to its business and operational systems.
- Non-spatial information is synchronised with spatial data stored in geo-database.
- Seamless and multi functional information processing based on location and visualization are available.
- Information is visualisable, scalable, and extendable with additional information.
- SDI is embedded in the organizational structure.
A government is spatially enabled when it uses spatially based information to facilitate evidence-informed policy, policy-based processes and process-driven information.

Spatially enabled governments use PLACE as the key means of organizing their processes, eg providing information to citizens, making evidence-based decisions .. (Enemark)
A whole of government approach to spatial enablement strikes major hurdles -

*Each agency needs its own business case to motivate new spatial systems.*

Each agency therefore needs its own forward plan.

But decision makers do not know where they are going ......
### Building business cases for spatial enablement stages in Australian governments

<table>
<thead>
<tr>
<th>SE Stage 1</th>
<th>Build the maps</th>
<th>Completed</th>
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<tbody>
<tr>
<td>SE Stage 2</td>
<td>Add land attributes to the visuals</td>
<td>Under construction for land admin functions</td>
</tr>
<tr>
<td>1. Rights OPIT</td>
<td>2. Restrictions compliance</td>
<td></td>
</tr>
<tr>
<td>SE Stage 3</td>
<td>Spatially enable policy decision making throughout government layers</td>
<td>Marginal</td>
</tr>
</tbody>
</table>
Spatial enablement story starts with spatial layers: people scale parcels, properties, buildings, roads

Second stage – add collections of attributes related to places
When and how attributes are treated is determined by -

a) **Life cycle** of information in custodians’ hands
b) **Decision** components for users
c) **Supply chain** joining the two

These vary according to the type of information and the processes used by custodians and users. LAS agencies are both custodians and users.

*This information focus is not robust.*
Primary function of spatial enablement is support for land governance

• By tracking decisions about land and people
• By applying transparency, accountability and good governance standards
Manage legal impact of restrictions (eg heritage controls) on

• Owners
• Strangers to the land (neighbours)
• New owners
Land information lifecycle custodian tracks the life of the restriction

Milestones

Create → Apply → Inform 3rd parties → Cancel → Archive

Major compliance functions – inspect, notify, fine …
Each restriction agency needs the same information

So why don’t we collect this information once and use it many times?

Just like we do with the parcel file through PSMA
Business case for compliance agencies

- Attach processes to the generic AAA OPIT data
- If OPIT data are geo-coded, the compliance information becomes spatial.
Stage 3 in spatially enabling governments

Implementing broad government policy
managing taxation, emergencies, climate change responses ..........

• Land information is a tiny part of the information chains needed to make and apply policies.
Intelligent government and business

Ability to use spatially based AAA information to support

• Evidence-informed policy
• Policy based processes and
• Process driven data

• Mix case-by-case land information with other information
Benefits

• Interactive functionality
• Base data is AAA, with in-built audit trail
• Collaboration across jurisdictions, boundaries etc is possible
• Scalability, flexibility, overlay with other data
Business case to spatially enable government processes

- Expand the APS 200 location project to highlight the importance of land information
- Map existing information exchanges
- Identify benefits available to key agencies (land registries) from SE at each stage of implementation as suppliers
- Identify improvements for users
Meet the barrier of privacy head on

Registry OPIT information is about people, it is not geo-information. Most of it is “non-identifying”. Where it is, it is made available in context of privacy practices and laws.

It is far more cost effective to keep one AAA OPIT file.
Australia needs land information

CSDILA team looks forward to the journey of making land information through the three stages of spatially enabling our governments