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The PSMA Australia Perspective

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1 Introduction

PSMA Australia Limited (Public Sector Mapping Agencies Australia) is an unlisted public company, established under the Corporations Act (2001), wholly owned by the state, territory and Australian Governments.

It draws on the public sector’s extensive, but discrete, geospatial data resources to co-ordinate the development of national datasets that deliver economic, environmental and social benefits to Australia.

The Board of Directors consists of nominees of each shareholder and an independent chairman, Mr Olaf Hedberg. The company was incorporated in 2001 with a paid up share value of $8, and now has assets in excess of M$6. The company office is located in Canberra with staff numbers increasing from 1 to 7 in the years since incorporation.

2 A brief history of PSMA

When the six colonies of Australia came together as States within the Federation of Australia in 1901, each State maintained responsibility for its own jurisdictional mapping, charting and recording of land title.

This continues to this day, with the additional level of approximately 717 Local Governments responsible for building and planning approvals.

Over the years, Australia developed a wealth of spatial information, using discrete State-based systems and different standards across the nation. This effectively prevented a natural progression to a seamless national dataset, and Australia’s relatively small population made a commercial enterprise of this nature unviable.

In an increasingly demanding commercial and technological environment, the absence of a national dataset could not be ignored.

In 1992, the Australia Bureau of Statistics (ABS) sought a single contractor to source base map data from the public sector to produce maps for analysis and integration dissemination products.

The Australian Public Sector Mapping Agencies responded to the call, bidding for the project through a consortium with, and represented by the NSW Land Information Centre. This was the first time the mapping agencies had considered pooling their data resources.

Upon giving a guarantee that they would deliver to specification in time for the 1996 Census of Population and Housing, the Public Sector Mapping Agency, representing 9 different Federal, State and Territory jurisdictions, was awarded the ABS contract in June 1993.

With support and cooperation from the Australian and New Zealand Land Information Council (ANZLIC), the Intergovernmental Committee on Surveying and Mapping (ICSM), the States and Territories, and the private sector, the PSMA embarked upon the Census Project.

The Census Project was a success with the PSMA delivering as agreed. It was this project that created the opportunity for a valuable national geospatial framework, and highlighted the potential for the application of an integrated map database for other uses.
Following this success, the PSMA was approached by other private and public organisations with national activities to create or provide other national datasets. With the benefit of the nation as a priority and non-exclusive brokering a condition, the PSMA developed strategies to create further national datasets. The PSMA’s growing success in this area over the following few years drew attention to the suitability of its potentially-limiting public sector structure.

In June 2001, the PSMA was incorporated to form PSMA Australia Limited, an unlisted public company, limited by shares and owned by the Governments of Australia.

Today PSMA Australia closes the institutional distance between public sector resources and private sector needs. The company exists to coordinate the assembly of, and facilitate public and private sector access to fundamental national geospatial datasets.

PSMA Australia’s Vision is “the creation of a national asset of comprehensive, quality and accessible spatial knowledge”.

PSMA Australia’s Mission is “the return of economic, environmental and social benefits to the nation through the coordination, assembly and delivery of standards-compliant, national datasets”.

As detailed in the PSMA Australia Limited Constitution, the objects listed below collectively define the scope of company operations. The Objects of the Company include:

- To coordinate, assemble and deliver national products from jurisdictional datasets and to achieve the widest possible use of the PSMA Australia datasets;
- To contribute to the establishment of the Australian Spatial Data Infrastructure that is being facilitated through (ANZLIC);
- To promote Australian land information knowledge, expertise and technology which may be marketed both in Australia and overseas.

3 PSMA Australia’s Marketplace for National Datasets

PSMA Australia grew out of a marketplace need. The ABS were dissatisfied with their previous map supplier (the Commonwealth Mapping Agency) and went to the marketplace. The consortium of Australian Mapping Agencies responded to this need by combining all their mapping data to meet this end.

One of the principles that drives the organisation is that PSMA Australia only builds national or multi-jurisdictional datasets. This ensures that PSMA Australia does NOT compete against Jurisdictions in the marketplace.

PSMA Australia’s general approach has been to work with a significant user to develop a product that meets their needs. This was the case for our initial topographic dataset that was produced to meet the needs of ABS. We have subsequently worked with ABS to produce new and enhanced datasets that better meet their needs.

PSMA Australia’s most recent dataset, the Geocoded National Address File (G-NAF), was developed in collaboration with two major users, Australia Post and the Australian Electoral Commission.
In the area of Administrative Boundaries, PSMA Australia is working with the ABS on the development of “Mesh Blocks”, the new “fine” mesh that will be used by ABS for its smallest statistical area. In addition, PSMA Australia is working with Australia Post to manage its Spatial Postcode Boundaries.

All these datasets have application by other users, and the marketplace is quick to respond and utilise these datasets.

PSMA Australia’s preferred approach is to develop datasets that meet a real client need.

However, PSMA Australia does produce datasets that we believe are in the national interest, regardless of whether a specific client is identified. An example is CadLite®, a dataset which represents Australia’s 10.5 million registered land parcels. PSMA Australia believe that this is a fundamental dataset that will be used in conjunction with other datasets as a “background” or framework. In the 2004-2005 financial year, royalties on CadLite returned only $50,000 with maintenance costs at around $80,000.

4 Sourcing Data from Custodians

PSMA Australia firmly believes that in order to be able to maintain datasets, data should be sourced from those organisations whose primary role is the generation and maintenance of the data, the Custodians.

This means that because property addresses are (usually) generated by Local Governments, the data should be sourced from Local Government. It may be “checked” through comparison with data from other sources (e.g. Australia Post or the Australian Electoral Commission), but the prime source is the Custodian.

Where PSMA Australia has attempted to source information from a new custodial source (e.g. Points of Interest (POI)), we have found the process was unsustainable, and the data did not meet reasonable accuracy specifications.

5 Institutional Arrangements

5.1 Data Inputs

The principle of sourcing data from custodians is easy in theory, however, the practice of making it sustainable is much more difficult.

It has been PSMA Australia’s experience that it takes a great deal of time to put in place the institutional arrangements that are required to support the ongoing timely supply of relevant information from custodians.

A contract is the last thing you need!

Custodians usually want answers to questions like:

- Why do you want our data?
- Will you “abuse” our data?
- Will your actions undermine our markets?
- If we give you our data, will we become irrelevant?
- Why are you in this business? and
- lots of other subjective questions.
But these are NOT the questions our Custodians ask. They ask questions about royalty returns, business cases, etc.

What has to happen is that trust must grow between the custodian/supplier and PSMA Australia.

PSMA Australia devotes a lot of effort into developing this “trust relationship”.

We operate in a very transparent way with our suppliers/custodians. In this area of its business, PSMA Australia does not operate in a traditional commercial way. Any perceived concerns by our suppliers are dealt with in a serious, compassionate and professional manner.

5.2 Data Management

PSMA Australia does little data management “in house”, with most data management tasks contracted out to private sector organisations.

The work contracted out includes:

- Data integration;
- Data management;
- Research & Development associated with data integration or data management; and
- Some business case development.

5.3 Data Distribution

PSMA Australia has positioned itself as a WHOLESALER rather than a RETAILER. In general, we deal only with Value Adding Resellers (VARs), although there are some exceptions with some government agencies such as the ABS.

PSMA Australia ensures that its data is:

- Available;
- Reasonably priced;
- Sold through VARs; and
- Accessed through transparent and simple licence agreements.

6 PSMA Australia is a Relationship Manager

PSMA Australia has recognised that its major role is that of a RELATIONSHIP MANAGEMENT organisation.

PSMA Australia’s “value add” is primarily in managing the relationship between itself and:

- Its suppliers (CUSTODIANS);
- Its contractors (DATA MANAGERS); and
- Its clients (mainly VARs).
7 Land Administration and Land Management

The FIG 1998 publication CADASTRE 2014 made 6 visionary statements about the cadastre of the future.

These statements were:

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

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

Statement 3
The cadastral mapping will be dead. Long live modelling.

Statement 4
Paper and pencil cadastre will have gone.

Statement 5
Cadastre 2014 will be highly privatised. Public and private sector are working closely together.

Statement 6
Cadastre 2014 will be cost recovering.

In Australia, significant progress has been made towards achieving statements 2, 3 and 4. However, the same cannot be said about statements 1, 5 and 6, and some thoughts are presented as to why these statements are unlikely to be achieved in the present Australian environment.

Statements 5 and 6 are unlikely to be achieved in Australia due to our Torrens System of Title. This system relies on a “government guarantee of title”, and because the community presently have a high degree of “trust” in this government guarantee, it is highly unlikely that much, if any of the process that underpins this guarantee will be prioritised in the near future.

The situation with respect to Statement 1 is quite different.

The cadastre paradigm is one about the relationship between LAND, PEOPLE and TAXES. This paradigm is heavily slanted towards an ECONOMIC mindset. Land is a commodity that can be bought, sold, mortgaged and taxed.

This cadastral paradigm is consistent with a Land Administration mindset. However, it is only part of the picture that is encompassed in the Land Management paradigm that is emerging in Australia.

Since 1992 when the “Mabo Decision” was handed down by the High Court of Australia, we have seen the progressive “unbundling” of the interests in land. The first of these was Native Title, an inappropriate term for what is effectively a spiritual interest in land.
We have also seen the separation out of other interests such as WATER, VEGETATION, CONTAMINATED LANDS, etc.

Each of these interests is being separately regulated through separate pieces of legislation that do not always recognise that the management activity needs to relate to the LAND.

Many of these interests in land are not recorded on the title documentation.

We have recently begun using the term “Rights, Obligations and Restrictions” (RORs), to both reflect the fact that there is a growing amount of legislation that effectively tells us what we can do (RIGHTS), what we can’t do (RESTRICTIONS) and what we must do (OBLIGATIONS) on land.

The mindset behind these RORs is a more holistic view of land, rather than the narrower economic focus. The Land Management paradigm encompasses the quadruple bottom line, encompassing economic, social, environmental and spiritual consideration of our land environment. The way these processes come together is in the actions that are taken “on the ground” in the form of the Land Management practices undertaken on the land.

8 PSMA Australia’s Role in Land Management

The products that PSMA Australia has brought to the marketplace will, in many instances, assist Property Managers in the management of their resources. These products provide managers with data about:

- Topography;
- Cadastral boundaries;
- Administrative boundaries;
- Etc.

PSMA Australia attempts to “value add” to data collected by Custodians, some of whom play other roles in the Land Management environment. For example, in the generation of G-NAF, PSMA Australia sources geocode information from jurisdictional DCDB data, and property address from Local Government.

Another example is the Roads layer of PSMA Australia’s Transport & Topography™ dataset. This dataset is generated in part from the jurisdictional DCDB data and Local Government street names.

To date PSMA Australia has not attempted to play an active role in the Land Management arena, because this is primarily the responsibility of the various State and Territory Jurisdictions.

However, we have attempted to capitalise on the data that has been generated by these jurisdictions to produce information products that meet the needs of other users.

PSMA Australia is aiming for the ubiquitous use of its datasets within Australia, and that these datasets are comprehensive, diverse and needs driven.