

**Review of the Implementation
of the
Spatial Information Industry Action Agenda
and the
Spatial Data Access and Pricing Policy**

Department of Industry, Tourism and Resources
Australian Government
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The Key of the Kingdom

This is the key of the kingdom:
In that kingdom is a city,
In that city is a town,
In that town there is a street,
In that street there winds a lane,
In that lane there is a yard,
In that yard there is a house,
In that house there waits a room,
In that room there is a bed,
On that bed there is a basket,
A basket of flowers.

Flowers in the basket,
Basket on the bed,
Bed in the room,
Room in the house,
House in the weedy yard,
Yard in the winding lane,
Lane in the broad street,
Street in the high town,
Town in the city,
City in the kingdom:
This is the key of the kingdom.
Of the kingdom this is the key.

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Executive Summary

The Spatial Information Industry Action Agenda (SIIAA) and the Spatial Data Access and Pricing (SDAP) policy are separate but related initiatives. Cabinet considered both initiatives under a single Cabinet Submission in September 2001. The implementation of an Action Agenda is reviewed, normally on completion. There is no formal requirement to review the implementation of the SDAP policy. However their common genesis and subject matter make it appropriate to review them together.

Dr Michael Green conducted the review between July 2004 and September 2004. A steering committee comprising Mike Lawson, General Manager, Aerospace and Defence Industries; John Busby, General Manager, Office of Spatial Data Management; and Kate Horton (replacing Alex Morozow), Evaluations Unit, oversaw the review. The terms of reference are set out in Section 1.3.

Spatial Information Industry Action Agenda

The development of the SIIAA in 2000-1 improved communication between key stakeholders. They produced the shared vision, goals and strategies that form the Action Agenda report *Positioning for Growth*. The implementation of the SIIAA from 2002-4 built more robust institutions able to carry forward the vision and its strategies. The capacity building initiatives of the Action Agenda are also well underway, including a CRC for Spatial Information. Key stakeholders continue to pursue Action Agenda initiatives through an Industry Reference Group. The post-Action Agenda focus is on the goal of developing domestic and global markets.

The SIIAA has been effectively and efficiently implemented. The Chair of the SIIAA Joint Implementation Committee wrote to the Parliamentary Secretary the Hon Warren Entsch MP in March 2004 that “we feel the Action Agenda has been a great success. It has been a catalyst to bring the industry together, seen a strengthening of the relationships between industry and Government and real growth in the industry, not only in an economic sense but also an increase in awareness within the broader industry of spatial information.”

Even with the success of the SIIAA, stakeholders are concerned about several issues. These include: the peak industry representative body’s limited resources; tensions around access and pricing issues; industry concerns about whether competitive neutrality ensures fair competition between the public and private sectors; consistency, currency and accuracy of spatial information; and the profile of the industry. However, the review assesses current policy and administrative frameworks as being able to respond appropriately to these concerns. In addition, the post-September 11 focus on counter-terrorism is galvanising high-level support for progress on some of the more obdurate barriers to building an integrated Australian spatial data infrastructure.

The challenges and opportunities for the spatial information industry identified in the Action Agenda remain relevant. In particular, industry must continue to work on developing its capacity to compete domestically and internationally in an increasingly globalised market for spatial information products and services.

Spatial Data Access and Pricing Policy

In 2000, the Government established an Interdepartmental Committee (IDC) on Spatial Data Access and Pricing. The IDC was to report to Cabinet on a pricing and access policy for Commonwealth spatial data and the administrative arrangements for implementing and managing the policy. The work of the IDC was influenced by the Productivity Commission Inquiry into Cost Recovery by Commonwealth Agencies. The Spatial Data Access and Pricing (SDAP) policy was announced in September 2001 and introduced in February 2002.

The IDC adopted the basic principle that the policy should seek to maximise the benefits to the community from increased access to and use of spatial data. The other basic principle was that the supply of digital spatial data to the community is an appropriate service for online delivery.

These principles lead to the policy that the price of fundamental spatial data should be based on the marginal cost of transfer. In particular, fundamental spatial data should be free if provided over the Internet. The policy also involves the removal of restrictions on commercial value-adding and onselling. The fundamental spatial datasets that are provided under the terms of the SDAP policy are listed on a Schedule.

The IDC recommended that the Commonwealth Spatial Data Committee (CSDC) be disbanded because it lacked the authority and resources to provide the leadership properly expected of the Australian Government in respect of national spatial data policy. In its place, the IDC recommended the establishment of an Office of Spatial Data Management (OSDM), operating under a Spatial Data Management Group (SDMG) and a Spatial Data Policy Executive (SDPE). The Spatial Data Policy Executive (SDPE) comprises senior representatives, generally at CEO or Deputy Secretary level, of relevant agencies.

The review focussed on evaluating the appropriateness, effectiveness and efficiency of the administrative implementing arrangements for the SDAP policy. It is not a review of the spatial data access and pricing policy more broadly.

The administrative structure recommended for implementing the Spatial Data Access and Pricing policy has been appropriately implemented to effectively and efficiently achieve the aims of the policy. These arrangements continue to be appropriate.

Even with the success in implementing the SDAP policy, there are a number of issues. These include: the extent of compliance of schedule datasets with the terms of the SDAP policy; the tendency of OSDM to have a technical and provider agency focus; the sustainability of the SDAP policy in the absence of budget supplementation for lost dataset sales revenue; and role of the SDPE, which has met formally only once.

There is considerable consensus that the best way to progress major spatial data initiatives within government is to leverage off key strategic issues of importance to senior decision-makers. National counter-terrorism strategy is the top of the list of such key strategic issues, but there are others.

Consequently, the rather than seek to drum-up interest in the SDPE, it is preferable to continue the demand-driven strategy currently being pursued. SDPE should remain as a formal network, with its substantive reporting, approval and responsibilities being acquitted by the Chair, advised by SDMG and supported by OSDM. SDPE can of course formally meet as the need arises.

To support the demand-driven strategy, SDMG and OSDM will need to guard against any tendency to become engrossed in technical issues of interest to spatial information provider agencies.

OSDM, while fulfilling its primary intra government role as a facilitating and coordinating agency for spatial data management, must continue to be mindful of its role to engage with and appropriately support the development of the private sector spatial information industry.

1 Introduction

The Spatial Information Industry comprises a wide range of activities. These include mapping, surveying, remote sensing, land administration and geographic information systems. It also includes software development and value-added services related to these areas of activities.

The public sector has been, and continues to be, the major supplier and customer of spatial information. The public sector accounts for the majority of expenditure on products, services and data and also has regulatory responsibilities. Government has been the main collector of data and large scale government programs like national mapping have been an important source of demand for the industry. Even where the government is not the primary customer, the need to meet government regulations has been a primary driver of demand.¹

The private sector participates in various aspects of the supply chains that service the spatial information market place. Outsourcing during the 1990s has contributed to an expanded role for the private sector. For example, in 1997 the production of national maps was outsourced.

The core of the spatial information industry is the surveying services ABS category, which also includes aerial photography, satellite imaging and mapping. The broader industry includes firms that develop and market specialist equipment and software for use by the industry, and firms that integrate spatial technologies with communications and information technologies.²

Demand for traditional surveying services largely follows overall trends for construction, investment in new mining projects and engineering construction.

The core industry, the surveying services category, was estimated by the ABS survey of 1998-9 to have annual revenue of \$926 million and to have experienced revenue growth of around 11% per year. The wider industry, which includes a number of firms classified in the ICT sector, probably experienced faster growth.³ In 2000-1, the surveying services category was estimated by the ABS to have revenues of \$1,418 million and operating profit before tax of \$105 million.⁴ This would suggest the category experienced revenue growth of around 21% per year between 1998-9 and 2000-1.

The core of the profession, the cartographers and surveyors, comprised 7770 persons (7074 male and 696 female) in 2001.⁵

The private sector spatial information industry comprises mainly small firms, such as surveying practices, with a few large firms, some of which are integrated engineering and professional services corporations. Many of the technology enablers and value-adders in the industry identify themselves as part of other industry sectors, such as ICT, transport services, mining services or agriculture services.⁶

Case Study

Bidvest Australia distributes generic and branded food service products. For example, it delivers twice a week to every KFC and Pizza Hut in NSW. Bidvest uses mapping, route navigation data and a geocoding application from MapData Sciences (MDS) in conjunction with its existing Manugistics fleet management system to plan delivery routes. The upgrade cost Bidvest \$60,000 and it estimates savings of about \$380,000 a year using the smarter routing technology.⁷

¹ Department of Industry, Science and Resources, *Positioning for Growth: Spatial Information Industry Action Agenda*, Commonwealth of Australia, September 2001.

² *Ibid.*

³ *Ibid.*

⁴ ABS, Australian Industry, 8155.0 2000-1.

⁵ ABS Census 2001.

⁶ *Positioning for Growth, op cit.*

⁷ Jennifer Foreshew, "Digital maps keeping trucks on track", *The Australian*, Tuesday 17 August 2003, IT Business page 3.

1.1 An Industry in Transition

The spatial information industry is undergoing significant organisational, technological and cultural change.

Once very public sector dominated, the private sector is playing an increasing role on both the supply and demand side. Some of the increased private supply is due to outsourcing of formerly public sector activities, like the provision of national maps. Satellite imagery was once exclusively provided via national government agencies, satellites and ground stations. These are increasingly being 'commercialised' if not privatised. For example, the data may be distributed by a government-owned company through partnership arrangements with commercial ground station operators and distributors.

New technologies are also driving significant change in the industry. These include Geographic Information Systems (GIS), the Global Positioning System (GPS) and increasingly ubiquitous portable digital devices. A flat panel display driven from an onboard or telecommunications-linked GIS database provides a powerful navigation and route planning technology. It is being installed in upmarket cars for example. GPS data loggers are increasingly in common use in a wide range of sectors, from farming to transport industries and scientific research.

Technology is transforming the productivity of spatial data collection, management and distribution as well as enabling new features and capabilities that will add value to traditional spatial data applications, like mapping, planning and navigation. As John Fairall, Editor of the industry journal *Position* put it:

“The era of the map tile is drawing to an end. It is being replaced by seamless databases, which enable cartographers to rewrite the rules on maintenance and updating. The result will be cheaper, more up-to-date maps, whether on paper or digital.”⁸

These changes are transforming the culture of the traditional cartography and surveying profession and industry.

1.2 Relationship of SIIAA and SDAP policy

The Spatial Information Industry Action Agenda (SIIAA) and the Spatial Data Access and Pricing (SDAP) policy are parallel but connected activities. Both initiatives developed during 2000 and 2001. In April 2001, the Secretariats of the Interdepartmental Committee on Spatial Data Access and Pricing and the Spatial Information Industry Action Agenda agreed that it would be more efficient for Cabinet to consider the reports from the two activities together. Consequently, the reports were submitted to Cabinet under a single Cabinet Submission in September 2001.

1.3 Terms of Reference and Methodology

The terms of reference for the review are:

1. evaluate the appropriateness, effectiveness and efficiency of the Spatial Information Industry Action Agenda (SIIAA) in addressing its goals;
2. evaluate the appropriateness, effectiveness and efficiency of the administrative arrangements for implementing and managing the Spatial Data Access and Pricing (SDAP) policy;
3. having regard to the existing goals and policy objectives of the SIIAA and the SDAP policy, suggest what further actions may be appropriate to effectively and efficiently achieve the goals and objectives; and
4. provide a report on the findings to the DITR Executive Committee.

⁸ Jon Fairall, “the Database Revolution”

The review is oversighted by a three-person steering committee, comprising:

- Mike Lawson, General Manager, Aerospace and Defence Industries, DITR
- John Busby, General Manager, Office of Spatial Data Management
- Kate Horton (replacing Alex Morozow), Evaluations Unit, DITR

The methodology of the review is to analyse relevant documentation and to interview key stakeholders.

Relevant documentation includes:

- documentation of initial policy objectives;
- reports on implementation;
- annual reports, portfolio budget statements and the like of relevant agencies and stakeholders; and
- policy documents of agencies and stakeholders.

Interviews with key stakeholder were used to identify key issues for more detailed analysis. Where practicable, a stakeholder's position on a particular issue has been referenced to a documented policy or position statement of the relevant agency or organisation.

2 Spatial Information Industry Action Agenda

2.1 Background

Action Agendas enable industry and government to work together to realise opportunities and overcome impediments to growth in specific industries. They are driven by industry, with government providing a facilitation role in addressing a range of whole-of-government issues, including innovation, investment, market access and development, regional development, education and training, environmentally sustainable development, workplace relations and regulatory reform.

The Spatial Information Industry Action Agenda was announced by Senator the Hon Nick Minchin, the then Minister for Industry, Science and Resources, on 24 May 2000, approved by the Government on 27 August 2001 and launched on 25 September 2001. The formal implementation period ended in March 2004.

What is Spatial Information (Data)?

Spatial data is information that can be mapped or which communicates 'where' a person or object is located in relation to others. It utilises geographic information systems, global positioning systems (GPS) and remote sensing satellites and aerial vehicles, and is increasingly disseminated through digital media. New technology sees spatial data now utilised in such sectors as transport; logistics; asset management; agriculture, forestry and fishing; resource and environmental management; emergency management, and telecommunications.

Positioning for Growth

On 27 August 2001, the Australian Government endorsed the Action Agenda report, *Positioning for Growth* and its recommendations.⁹ The Action Agenda outlines a vision for the industry that Australia will be a global leader in the innovative provision and use of spatial information. The Action Agenda seeks to reposition the spatial information industry over the next 5 to 10 years. It identifies strategies to alleviate impediments to growth, and seeks to facilitate greater participation in the global information economy.

2.2 Goals

The SIIAA identified five goals for the spatial information industry:

- develop a joint policy framework (10 recommended actions);
- improve data access and pricing (9 recommended actions);

⁹ Positioning for Growth, *op cit*.

- increase effective research and development (6 recommended actions);
- evaluate and reform education and skills formation (9 recommended actions); and
- develop domestic and global markets (11 recommended actions).

2.3 Implementing Arrangements

The implementation of the Action Agenda was oversighted by a Joint Steering Committee. The Joint Steering Committee comprised representatives of the ANZLIC – the Spatial Information Council (formerly the Australia New Zealand Land Information Council); the Australian Spatial Information Business Association (ASIBA); the Spatial Sciences Institute (SSI); and the Department of Industry, Tourism and Resources.

The Joint Steering Committee was chaired, *ex officio* by the chair of ASIBA. The Joint Steering Committee met 7 times, holding its first meeting in April 2002 and its last in February 2004.

2.3.1 Staffing and Funding

During the development period of the Action Agenda in 2000-1, \$183,000 and three Department officers were devoted to it, not including senior management time. Funding was predominantly used to support consultations, the launch of the Action Agenda and the publication of the Action Agenda report *Positioning for Growth*.

During the implementation period from 2001 to 2004, \$267,000 was spent and one Department officer was devoted to it, not including senior management time. Funding was predominantly used to support meetings and consultations, a branding workshop and the production of a spatial information industry capability CD.¹⁰

2.3.2 Post-Action Agenda Arrangements

One indication of the success of the Action Agenda is the continued engagement of its principal representatives beyond the Action Agenda implementation period. ASIBA and SSI continue to pursue the agenda through an Industry Reference Group. Representatives of ANZLIC – the Spatial Information Council contribute on an informal basis as the need arises.

ANZLIC - the Spatial Information Council developed in February 2004 a position paper “Engagement with the Spatial Information Industry” to inform the ongoing work of the Industry Reference Group. One aim of this paper is to move the discussion on from the institution building and supply side issues that were a focus of the Action Agenda towards engaging with users and the drivers of demand for spatial information and services.

Section 2.5.3 further elaborates the plans for ongoing implementation of the vision for the industry articulated in the Action Agenda.

2.4 Status of Recommended Actions

The Action Agenda is a partnership between industry and government to set out a vision and strategy for the industry. Noting this partnership approach and the ambiguity involved in classification, of the 45 recommended actions, 7 are essentially joint actions by industry and government, 13 are primarily the responsibility of government and 25 are primarily the responsibility of the industry.

Of the 45 recommended actions:

- 17 are substantially complete although there may remain some ‘mopping up’ work to do;
- 25 are ongoing activities on which significant progress has been made;
- 2 are longer term activities that ASIBA is committed to pursuing; and
- 1 is no longer applicable.

Of the 13 recommendations assessed as primarily the responsibility of government, 9 are substantially complete and 4 are ongoing activities on which significant progress has been made.

¹⁰ Staffing and funding figures are sourced from the Department of Industry, Tourism and Resources.

The 4 ongoing activities are adequate funding of public data provision, removing trade barriers, promoting the industry and promoting government programs to the industry. These are perennial and generic government activities. The important message of the Action Agenda is that the Government not neglect the spatial information industry.

These results indicate that the Action Agenda has been very substantially implemented. The Chair of the Action Agenda Joint Implementation Committee wrote to the Parliamentary Secretary the Hon Warren Entsch MP that “we feel the Action Agenda has been a great success. It has been a catalyst to bring the industry together, seen a strengthening of the relationships between industry and Government and real growth in the industry, not only in an economic sense but also an increase in awareness within the broader industry of spatial information.”¹¹

Ongoing and post-Action Agenda work is overlooked by the Industry Reference Group (see subsection 2.3.2). ANZLIC - the Spatial Information Council prepared a position paper in February 2004 to provide focus for the work of the Industry Reference Group.¹²

2.5 Key Achievements

2.5.1 Building Institutions

The development phase of the Spatial Information Industry Action Agenda was primarily concerned with communication and visioning activities for the industry. In moving to implementation, the focus shifted to creating the institutional capacity to build capability and further develop the industry into the future.

In line with the Action Agenda, the Australian Spatial Information Business Association (ASIBA) has been formed as a national body to foster the development of the industry.¹³ The Spatial Sciences Institute (SSI) has been formed as a single national professional organisation.¹⁴ As part of its role as a professional organisation, SSI pursues education and skills issues with the Department of Education, Science and Training through the Spatial Sciences Education and Skills Formation Advisory Committee (SSEFAC).

The other key player is ANZLIC – the Spatial Information Council (formerly the Australian and New Zealand Land Information Council), which is the peak intergovernmental organisation providing leadership in the collection, management and use of spatial information in Australia and New Zealand. The ANZLIC Council comprises ten members representing the Australian Government, the New Zealand Government and each of the State and Territory governments of Australia. A key concept of the Council is that each member represents a spatial information coordinating structure for whole-of-government within their jurisdiction.¹⁵

While ANZLIC has existed in various forms since 1986, the impetus that led to the Action Agenda moved the Council to establish a national secretariat in 2001. This has enhanced its ability to carry forward its agenda to develop nationally-agreed (in both Australia and New Zealand) policies and guidelines aimed at achieving “best practice” in spatial data management.¹⁶

As a result, three peak organisations now represent the spatial information industry. ANZLIC - the Spatial Information Council represents public sector interests, ASIBA represents the commercial interests and SSI represents the spatial science professionals and provides for professional development.

Within the Australian Government, while noting that other agencies do have spatial information responsibilities, Geoscience Australia is the national geospatial information organisation. It was

¹¹ Malcolm Lester, 26 March 2004.

¹² ANZLIC Position Paper: Engagement with the Spatial Information Industry, February 2004.

¹³ See <http://www.asiba.com.au>

¹⁴ See <http://www.spatialsciences.org.au>

¹⁵ See ANZLIC <http://www.anzlic.org.au>.

¹⁶ See ANZLIC <http://www.anzlic.org.au>.

formed from the amalgamation of the Australian Geological Survey Organisation and the Australian Land Information Group to streamline the acquisition and delivery of spatial data held by these agencies.¹⁷ The Office of Spatial Data Management (OSDM), hosted by Geoscience Australia, has been formed to coordinate the implementation of the Spatial Data Access and Pricing Policy.¹⁸

Also formed is the Australasian Spatial Information Education and Research Association (ASIERA). ASIERA represents the academic and research sectors within the discipline of spatial information.¹⁹

The Action Agenda brought together the partners and rationale for a successful bid for a Cooperative Research Centre in Spatial Information to harness Australia's R&D in spatial information technologies.²⁰

These institution building activities, particularly the creation of ASIBA and SSI, are universally regarded as significant and positive achievements of the Action Agenda. They provide the basis for developing and carrying forward the industry into a post-implementation phase expected to be focussed on capability development.

2.5.2 Raising Profile and Awareness

Stakeholders agree that a key achievement of the Action Agenda has been to raise the profile of the industry. As one person put it, "It's like black and white: before the Action Agenda, there was no recognisable spatial information industry as such; now there is."

As an example of the new profile of the industry, ASIBA has made a submission to the Inquiry into the Coordination of the Science to Combat the Nation's Salinity Problems. The submission argues that spatial information is a significant element in the scientific data required to resolve the problem and makes eight specific recommendations. It also draws attention to the role that the private sector spatial information industry can play. ASIBA has also been actively advising government on the importance of spatial information to other pressing national issues, including homeland security, emergency management and water property rights.²¹

2.5.3 Vision and Strategy

The Action Agenda has provided the spatial information industry with a coherent vision and strategy. These continue to be relevant to the future direction of the industry. ASIBA continues to use the Action Agenda report to inform its strategic considerations and for promotional purposes.

ASIBA and ANZLIC have produced a position statement on developing global markets for the Australian spatial information industry. ASIBA is working with others to develop an Enterprise Development Program and an Export Alliance Model. ANZLIC has also developed an Education and Skills Formation Project Plan.

The Industry Reference Group comprising ASIBA and SSI, with participation by ANZLIC as needed, are well placed to develop detailed plans in support of the Action Agenda's vision and strategy for the spatial information industry.

ASIBA have contributed to strategy at state level, particularly in Victoria and Queensland.²²

2.5.4 Access and Pricing

Improving data access and pricing is one of the five goals of the Action Agenda. Progress has been made in a number of key areas, which are outlined below.

¹⁷ See Geoscience Australia <http://www.ga.gov.au>.

¹⁸ See Office of Spatial Data Management <http://www.osdm.gov.au>.

¹⁹ See ASIERA <http://www.asiera.org.au>.

²⁰ See Spatial Information CRC <http://spatialinfocrc.org>.

²¹ See ASIBA.

²² See Spatial Information Industry Development Plan for Queensland and A Development Plan for the Victorian Spatial Information Industry on the ASIBA web site <http://www.asiba.com.au>.

2.5.4.1 Spatial Data Access and Pricing Policy

The Australian Government announced with the Action Agenda in 2001 a new Spatial Data Access and Pricing (SDAP) policy, together with the implementing arrangements including the Office of Spatial Data Management (OSDM). Key elements of the policy are that identified fundamental Australian Government spatial data be available at the marginal cost of distribution (e.g., free if available over the web) and under essentially unrestricted terms of use. The policy replaced the earlier 1995 policy under which Australian Government spatial data pricing was based on recovering the average cost of distribution.²³

The implementation of this policy led to “dramatic reductions in the prices of datasets (in one agency, prices of some datasets dropped from \$25,000 to \$99). Increased availability and decreased prices resulted in a substantial rise in the number of datasets downloaded or sold...”²⁴

The SDAP policy applies to fundamental spatial data, defined as a “dataset for which more than one government agency requires consistent national coverage in order to achieve their objectives”.²⁵ Datasets available under the terms of the SDAP policy are listed on a Schedule. For further information on the status of Schedule see section 3.5.1

2.5.4.2 ANZLIC - the Spatial Information Council Initiatives

Within Australia, the major vehicle for improving access to data is the Australian Spatial Data Infrastructure (ASDI). The ASDI is a national framework for linking users with providers of spatial information. The ASDI comprises the people, policies and technologies necessary to enable the use of spatially referenced data through all levels of government, the private sector, non-profit organisations and academia. Key components of the ASDI are: the Australian Spatial Data Directory; Standards; and Spatial metadata.²⁶

Relevant ANZLIC publications on access and pricing issues include:

- Guiding Principles for Spatial Data Access and Pricing Policy, 2001;
- Model Data Access and Management Agreement, 2002;
- Access to Sensitive Spatial Data, discussion paper, 2004; and
- Spatial Information Privacy Best Practice Guidelines, 2004.²⁷

2.5.4.3 PSMA Australia Limited

The state, territory and federal governments have formed PSMA (Public Sector Mapping Agencies) Australia Limited as an unlisted public company limited by shares. It functions as a ‘clearing house’ within the ANZLIC model for the Australian Spatial Data Infrastructure. PSMA Australia aims to facilitate access to seamless national datasets derived from government data sources. It removes barriers and simplifies licensing of national datasets to value added resellers. There are currently five national datasets: transport, cadastral (CadLite), administrative boundaries, points of interest and the geocoded national address file (G-NAF).²⁸

The value added resellers (VARs), of which there are currently 21 listed, then add ideas and innovation to develop products to meet consumer demands. PSMA Australia does not license data to end-users. Additionally, a fundamental principle underpinning the operations of PSMA Australia is that it adopts operational business rules that minimise any impact on existing revenue streams of the jurisdictions. Importantly, requests from potential VARs to satisfy less than national needs are directed to the relevant jurisdictions.²⁹

²³ See *Spatial Data Access and Pricing*, the report of the Commonwealth Interdepartmental Committee on Spatial Data Access and Pricing, June 2001. See <http://www.osdm.gov.au/osdm/policy.html> for a summary of the policy and a collection of the key policy documents.

²⁴ Commonwealth Spatial Data Policy Executive, Annual Report, 2001-2. See http://www.osdm.gov.au/osdm/docs/SDPE_Annual_Report_2001-02.pdf

²⁵ See Office of Spatial Data Management, Glossary of Terms, <http://www.osdm.gov.au/osdm/glossary.html>

²⁶ See ANZLIC http://www.anzlic.org.au/infrastructure_ASDI.html

²⁷ See ANZLIC <http://www.anzlic.org.au/publications.html>.

²⁸ See PSMA <http://www.pdma.com.au>

²⁹ See PSMA <http://www.pdma.com.au/information/general/pricing.html>.

The basic principles underpinning the PSMA Australia Data Access and Pricing Policy are:

- simplicity of concept;
- equality of access to all users;
- logical structure;
- dual pricing structure including access fees and royalties;
- ability to be flexible to as yet unknown applications;
- support of individual member agencies existing revenue;
- non exclusivity with respect to VAR agreements; and
- protection of intellectual property rights of PSMA Australia and its VARs.³⁰

2.5.4.4 Summary

Significant progress is being made to open the nation's public sector vaults of spatial data. This has lowered prices of many datasets and increased the number of datasets distributed. ANZLIC has developed guidelines covering the main issues, including access, pricing and privacy. ANZLIC is working these issues through with member government agencies. There have been some notable changes in State government spatial data access and pricing following the Australian Government's initiatives in this area.

PSMA Australia provides to value added resellers national spatial data sets integrated from all Australian jurisdictions under a single access and data pricing policy.

2.6 Outstanding Issues

2.6.1 Support for ASIBA and SSI

ASIBA and SSI have been recently formed to represent the industry and the profession respectively. ASIBA has company members, while SSI has individual professionals as members.

The creation of SSI as a single, national professional body for spatial information professionals is a significant achievement, but continues to be a work-in-progress. A number of the five antecedent professional bodies have formally disbanded; others are yet to do so. The move to an integrated professional structure continues to be resisted in some jurisdictions. But change is happening and there seems to be good majority support for the strategy of professional integration. As an example of its success, the SSI attracted 850 spatial information professionals to its first national conference in Canberra in October 2003.

The creation of a single national industry group, ASIBA, is also a significant achievement. ASIBA operates with only one paid staff member: a Chief Executive Officer at the national office in Canberra. The CEO is supported by in-kind contributions of key staff from various Consulting Surveyor Groups, as well as a Board of 15 Directors, including the Chair. ASIBA had revenues of some \$200,000 in 2002-3, including from contract services performed by ASIBA, up from around \$100,000 the previous year. Employment expenses account for about half the outgoings. ASIBA reported an after tax loss of some \$14,000 in 2002-3.³¹

ASIBA's resources constrain the number of issues it can pursue and the depth to which it can pursue them. It is important that public sector agencies, particularly ANZLIC - the Spatial Information Council and OSDM, bear in mind the fledgling industry body's constraints in this area and do what they properly can to provide a supportive context for ASIBA as it works to build its resource base. This will be a continuing challenge in an industry characterised by mostly small, traditional surveying, mapping and remote sensing companies and a few large ones, some of which are large integrated engineering and professional services/consulting companies.

³⁰ *ibid.*

³¹ ASIBA Annual Report, 2002-3. See <http://www.asiba.com.au>.

2.6.2 Access and Pricing Issues

Nationally, convergence is taking place on access and pricing regimes under ANZLIC's Guiding Principles for Spatial Data Access and Pricing.³² Nevertheless, there are continuing tensions that are inherently difficult to resolve to everyone's complete satisfaction.

Foremost among these tensions is the appropriate balance to be struck between low-cost access to government-held spatial data on the one hand and government custodians (and taxpayers) getting a return on their investment in creating and managing that information on the other. Some jurisdictions place a higher priority on cost recovery, others on accessibility.

ANZLIC regards the Australian Government's SDAP policy as 'best practice'. But it is not without its difficulties and critics.

The state and territory governments are responsible for land title (cadastral) information, which is probably the most highly and widely valued spatial information held by government. They are also responsible for large scale (i.e., more detailed) topographic maps and other fine-scale datasets required to fulfil their constitutional responsibilities for land and resource management. The state and territory governments receive many times more revenue from sales of spatial information than does the Australian Government. Thus changes to pricing arrangements by the state and territory governments have a relatively more significant impact on budgets, and are of more interest to industry, than do changes to Australian Government pricing arrangements.

Within the Australian Government, different custodian agencies have different access and pricing issues, including national security, privacy and cost recovery requirements. There also appears to be tension over the scope of the terms 'spatial information' or 'spatial data'.

The spatial information professionals tend to have a very wide interpretation of 'spatial information'. ANZLIC says "spatial information (also known as geographic information) is any information that can be geographically referenced, i.e. describing a location or any information that can be linked to a location."³³

Others have a narrower interpretation of spatial information. The SDAP policy says, "sometimes called land information or geographic information, spatial data is information about location and attributes of features that are on, above or beneath the surface of the earth."³⁴ In picking up this definition, the ABS adds that "while statistical data can be mapped if they relate to a defined area for which digital boundaries are available, the ABS treats the digital boundaries themselves as spatial data and the often large and complex data sets, which may or may not be linked to those boundaries, as statistics. For example Census District boundaries are spatial data while Basic Community Profiles are statistics."³⁵

Thus statistical professionals draw a distinction between statistics and spatial data, even if the statistics can be linked to a location.

The spatial information community's wide-scope interpretation of 'spatial data' feeds a view, held by ASIBA for example, that a wider range of statistical information, including information held by the ABS, should be available under the terms of the SDAP policy.³⁶ This view is not supported by the ABS. Nor is it required under the SDAP policy, which states that the policy does not apply to datasets which are "primarily non-spatial, such as statistical collections."³⁷

The ABS provides a number of datasets related to Australian geographical boundaries and localities under the terms of the policy. It also supplies a number of basic statistics free of charge as part of their community service obligation.

³² See ANZLIC <http://www.anzlic.org.au/policies.html>.

³³ ANZLIC Glossary of Terms. See http://www.anzlic.org.au/glossary_terms.html#S.

³⁴ Spatial Data Access and Pricing Policy, *op cit*, page 65.

³⁵ ABS Glossary of Statistical Geography Terminology. See <http://www.abs.gov.au/Ausstats/abs@.nsf/0/33C538BDC3EF4F33CA256E5C001CDED0?Open>

³⁶ Personal communication. See also ASIBA's position paper on Access to Fundamental Data, February 2004 (<http://www.asiba.com.au>).

³⁷ Spatial Data Access and Pricing Policy, *op cit*, page 11.

The principles of the ABS Dissemination and Pricing Policy are to “ensure that:

- all users, including the general community, have free access to an easily accessible set of basic official statistics; and
- where it is cost effective to do so, the costs of producing and providing information products and services that are additional to the basic set of official statistics would be recovered from the users of these additional products.”³⁸

“ABS publications for private use are priced to collectively recover the marginal costs of production, distribution and marketing.”³⁹ Note in particular that ABS aims to recover more than the marginal cost of transfer (i.e., distribution), which is a key element of the SDAP policy.

The ABS dissemination and access policy does not seem inconsistent with the SDAP policy, because:

- The SDAP policy explicitly states that the schedule does not include: datasets that are primarily non-spatial, such as statistical collections nor datasets that incorporate confidential information (such as names and addresses);⁴⁰
- ABS operates under a community service obligation for statistics and provides free and easy access to basic official statistics; and
- ABS says its pricing policy objectives follow government guidelines on cost recovery by information agencies.

The guidelines on cost recovery by information agencies require agencies:

- with significant cost recovery arrangements to have mechanisms in place to promote consultation with stakeholder where appropriate;
- to develop a cost recovery impact statement;
- to report on consultation with stakeholders as part of their cost recovery impact statement; and
- periodically review their cost recovery arrangements no less frequently than every five years.⁴¹

The ABS is committed to developing its cost recovery impact statement in 2005-6.⁴² ABS consultation with stakeholders during the development of its cost recovery impact statement should give ASIBA the opportunity make its case to the ABS.

There are other tensions in access and pricing of spatial information. Some in the industry prefer the PSMA model, which provides its national datasets only to approved Value Added Resellers (VARs). By contrast, datasets on the Schedule of fundamental data under the SDAP policy are provided to anyone who wants them. It is claimed the SDAP policy model does not allow for resellers to recoup the cost of market development work they undertake with clients and potential clients. That is, the cost of ‘selling’ a client on their need for a particular dataset cannot be adequately recovered if the client can get the data themselves at the marginal cost of transfer. On the other hand, equity principles require that all users have equitable access to the public data that is made available by public sector agencies in the public interest. Furthermore, companies using such data in products should be basing their business model around value adding to the basic data, not around privileged access to the basic data.

³⁸ ABS Dissemination and Pricing Policy. See <http://www.abs.gov.au/Websitedbs/D3310114.NSF/0/12BB13B927110E44CA2569A80013BEC1?Open>

³⁹ *ibid.*

⁴⁰ Spatial Data Access and Pricing, *op cit*, page 3.

⁴¹ Commonwealth Cost Recovery Guidelines for Information Agencies. See http://www.finance.gov.au/finframework/docs/Guidelines_-_Information_2_Dec.pdf

⁴² Australian Government Budget 2004-5, Portfolio Budget Statements – Treasury, Part C Agency Budget Statements, Australian Bureau of Statistics. The ABS generates some \$16m per annum in sales of goods and services.

2.6.3 Roles and Conduct of Public and Private Sector

Spatial information has developed largely to support basic government activities like defence, land administration and natural resource management as well as nation building projects including major transport, telecommunications and energy infrastructure.

The public sector continues to dominate the supply and demand markets for spatial information and accounts for the majority of expenditure on products, services and data.

The private sector devoted considerable energy during the 1990s to advocating outsourcing of spatial information provision. At the time, public sector agencies resisted outsourcing, but some outsourcing has been done. For example, providing national maps was outsourced in 1997. These debates were just one aspect of larger debates at the time about national competition policy and outsourcing.

The public and private sectors have substantially moved on from that environment of distrust to building capacity in both the private and public sectors consistent with national competition policy. The Action Agenda has undoubtedly contributed to bringing about greater mutual understanding and a common position on capacity building in the spatial information industry. Nevertheless, the relationship continues to be somewhat uneasy.

The Government's competitive neutrality policy aims to promote efficient competition between public and private businesses. Specifically, it seeks to ensure that government businesses do not enjoy competitive advantages over their private sector competitors simply by virtue of their public ownership. But ASIBA says "competitive neutrality is not possible when public organisations are founded on the basis of community funding and private organisations are founded on risk capital." However, "an essential element of the obligations [of competitive neutrality principles] is that government business activities, like their private sector counterparts, set prices that enable them to earn sufficient revenue to cover their costs, including the cost of capital."⁴³ The Australian Government Competitive Neutrality Complaints Office has been established as an autonomous agency within the Productivity Commission to administer the Australian Government's competitive neutrality complaints mechanism. ASIBA is yet to lodge a complaint.

ASIBA believes that the public and private sectors should maintain distinct and separate missions and should not compete, at least in spatial information.⁴⁴ However, this is clearly inconsistent with fundamental tenets of competitive neutrality policy aimed not at preventing public-private sector competition, but at ensuring (among other things) that such competition is fair.⁴⁵

ANZLIC has produced a discussion paper addressing the relationship between the public and private sectors in the Australian spatial information industry. It recognises that "the current level of pervasive government involvement in spatial information processing stems from an historical need by Governments for spatial information to underpin [essential government activities]. Growing maturity in the emerging private sector diminishes the need for government involvement in supply activities."⁴⁶ The discussion paper outlines the key roles of the government and the private sector respectively in the spatial information industry. It sets out key tests for involvement by the public sector and by the private sector respectively. And while the

⁴³ National Competition Council, Government Business: Competitive Neutrality.

<http://www.ncc.gov.au/sector.asp?sectorID=16>

⁴⁴ ASIBA Position Statement, "Competition between Public and Private Sectors in the Spatial Information Industry", adopted 12 February 2003

⁴⁵ See Commonwealth Competitive Neutrality Policy Statement, June 1996,

<http://www.treasury.gov.au/documents/275/PDF/cnps.pdf>

⁴⁶ Spatial Information Industry Joint Steering Committee Discussion Paper "Respective Roles and Conduct of Relationships between the Public and Private Sectors in the Australian Spatial Information Industry, Feb 2004.

discussion paper clearly sees each sector as having specific roles, it does not see these as being mutually exclusive. The example mentioned in the discussion paper is worth quoting at length:

“A good example is the formation of a company called PSMA Australia. PSMA has Australian governments as its shareholders. Its charter is to facilitate aggregation, integration and supply of national framework datasets (such as topography, cadastral boundaries and geocoded addresses) based on data provided by the State, Territory and Commonwealth mapping agencies and other public agencies. The PSMA uses the private sector extensively in the generation of these national framework data sets. The private sector has developed significant new value-added products and services from PSMA data sets. The performance of PSMA is facilitating the assembly and delivery of multi resolution national spatial data has been a harbinger of the significant benefits and value available to the spatial information industry through partnership with government.”⁴⁷

PSMA Australia products, for example the Geocoded National Address File (G-NAF), are important inputs to the private sector’s spatial information products and services.

The ANZLIC discussion paper is conscious that the public-private sector relationship in the spatial information industry is evolving, that any definition of roles cannot be locked in forever and that from time to time disagreements will occur. It will come down to the representative bodies recognising and acting on these evolutionary changes through continuing dialogue. All sectors must maintain the momentum created by the Spatial Information Industry Action Agenda by focussing on the common vision and constantly seeking common ground.

2.6.4 Consistency, Currency and Accuracy

2.6.4.1 Consistency

Spatial data is collected, managed and used by numerous agencies for a variety of purposes. The institutional, administrative and technical infrastructure has developed historically and in most cases for the purposes of the relevant agency without reference to others. This has resulted in a wide range of technical and administrative infrastructures for spatial data. For example, statistical local areas, suburbs, census collection districts and postcodes are some of the geographical units. There are yet others related to natural resources, such as water catchment areas. These various geographic areas do not have common boundaries and as a result data cannot be readily integrated and exchanged between organisations, although pragmatic ‘concordance systems’ can provide approximations. These may be adequate for some purposes, but they can produce inaccuracies at the small area level.

To illustrate this issue, consider postcodes. People are much more likely to know their postcode than their statistical local area, local government area or census collection district and are much more likely to volunteer it. Agencies, for privacy reasons, generally remove address data and store it or make it available by postcode. As a result, a lot of administrative data is available only by postcode. Postcodes have therefore become, almost by accident, the most commonly used spatial data reference unit in government and the private sector. Yet the postcode boundary set has a number of difficulties when used as a spatial data unit.

Postcodes were originally developed to aid the delivery of mail. They may be points (e.g., GPO boxes), delivery routes on country roads, or non-contiguous areas. Postcodes do not correspond to Gazetted localities or align with the Australian Standard Geographical Classification. Nor do they fully cover the Australian landmass. To address the problems associated with the use of postcode boundaries for spatial analysis of socio-economic and administrative data, the Spatial Data Management Group established a Postcodes Working Group.

⁴⁷ *Ibid.*

The Postcodes Working Group is one aspect of a larger process of boundary alignment. The general approach is to: (a) work in the short term to better align the various geographical boundaries; (b) develop longer term options for transition to a consistent basis for spatial boundaries.

The short-odds candidate for the longer term is a new geographical unit currently being developed by the ABS known as a Mesh Block. Mesh Blocks will be several times smaller than census collection districts. Mesh Blocks are intended to become the basic building block for all statistical, political and administrative regions in Australia.

Mesh Blocks will be so small that they will be able to aggregate reasonably accurately to any geographical region. This will result in more accurate demographic analysis, which in turn will lead to improved government policy formulation and service delivery. The ability to more easily integrate data from different sources will also decrease duplication between organisations. The Mesh Block concept is only now feasible due to advances in GIS technology and improved access to digital topographic data. In particular, the recent development of the Geocoded National Address File (G-NAF) by PSMA Australia now enables the efficient coding of address information to small geographic units.

It is estimated that Australia would be divided into around 200,000 Mesh Blocks, compared to the 37,209 census collection districts that are currently the smallest spatial unit. The ABS aims to have Mesh Blocks designed and built in time for the dissemination of data for the 2006 Census. However to meet the planning time frames and risk management procedures of the census, draft Mesh Blocks must be finalised in time for the census Dress Rehearsal in May 2005.⁴⁸

The Postcodes Working Group is encouraging Australian Government agencies to Mesh Block tag their data at source so as to make it more amendable to spatial analysis.

As well as the administrative inconsistencies discussed above, different institutions have developed a diverse range of technical infrastructure to support their spatial information needs. This adds to the difficulty of working with data from different agencies. Governments at all levels: national, state and local are looking to international standards to assist them in lowering the barriers to data flow between them, especially for major initiatives such as counter-terrorism and natural resources management. The International Organisation for Standardisation (ISO), the Open Geospatial Consortium (OGC) and the World Wide Web Consortium (W3C) are developing and promoting open standards that improve data consistency and facilitate interoperability. These standards are being progressively implemented within the Australian Spatial Data Infrastructure (ASDI), an initiative of all Australian governments, facilitated by ANZLIC. The ASDI Action Plan 2003-4 has identified priority areas to be addressed in 2003-2004 to provide an initial focus on interoperability issues using open system applications and establish a solid basis for further action.⁴⁹

2.6.4.2 Currency, Accuracy and Resolution

Another issue of concern to users is the currency of spatial information—whether the information is up-to-date. As spatial information changes over time, currency and accuracy are often linked.

Industry has applauded the Australian Government's updating of the national 1:250,000 map series. But ASIBA is pressing for the 1:100,000 series to be done. Geoscience Australia lists the currency of this series of maps as ranging from 1961 to 2000. The forward program (of updates) is "selected maps under revision".⁵⁰

⁴⁸ ABS 1209.0 Information Paper, Meshblocks, 2003. See <http://www.abs.gov.au/websitedbs/D3110129.NSF/0/0C465936F8BD4057CA256EDF0014DA8D?Open>

⁴⁹ See ANZLIC http://www.anzlic.org.au/infrastructure_ASDI.html#plan.

⁵⁰ Geoscience Australia, 1:100,000 scale NATMAPS product specifications. See <http://www.ga.gov.au/nmd/products/maps/100k.htm>

As part of its argument for these updates to be funded sooner rather than later, ASIBA points to their importance for emergency management. A 2003 feature article in an industry journal commented that:

“...the 1:100,000 map sheets are in much the worst shape. The majority date from the 1970s and 1980s, and are not useful for many purposes as a result. In many cases they remain the best available published maps and are still called on in large numbers, particularly in emergency situations such as the recent bushfires.”⁵¹

The House of Representatives Select Committee inquiry into the recent Australian bushfires was provided with information on the age distribution of maps distributed by Geoscience Australia for the January fires (of 2003). This information shows a substantial majority of the 1:100,000 series maps distributed were over 20 years old, some more than 30 years old.⁵² The Select Committee report recommended that “the 1:100,000 national mapping program be accelerated to achieve an average life of no greater than 10 years with priority given to those areas susceptible to national disasters.”⁵³

It is expensive to update the 1:100,000 map series, which comprises more than 3000 maps.⁵⁴ In contrast, the 1:250,000 scale series involves only 513 maps. Geoscience Australia is not currently funded to undertake an accelerated program to update the 1:100,000 series.

In December 2003, the Council of Australian Governments (COAG) gave in-principle approval to the report of a review it had commissioned into Australia’s approach in dealing with natural disasters.⁵⁵ A number of the recommendations go to issues of ensuring a sound knowledge base, effective information management and the provision of vital information services. The report identified more systematic use of GIS and remote sensing products as challenges needing attention.⁵⁶

Geoscience Australia’s National Mapping Division has responded by directing around \$2 million funding into a pilot program over 18 months. The purpose of the pilot program is to specifically address emergency management needs through new mapping in areas identified as most in need, and the development of tailored 1:100,000 products that will be built into on-going mapping programs. This is a relatively short term pilot program with an initial objective more focussed on establishing relationships and processes than defining the end product in absolute terms. The pilot project will be a good first step in helping to meet emergency management requirements.⁵⁷

ASIBA is also concerned that the SDAP policy may not give agencies adequate financial incentive to maintain, update or improve the spatial information they provide under its terms. Relevant improvements might include, for example, finer resolution datasets. The financial implications of the SDAP policy for agencies will be considered in more detail in Section 3.7.3. Here, it is important to record ASIBA’s comment that accuracy, currency and resolution of spatial data are as important as access and pricing.

⁵¹ Jon Fairall, “The Database Revolution”, *Position Magazine*, Issue 4, April-May 2003.

⁵² Parliament of the Commonwealth of Australia, “A Nation Charred: Report on the inquiry into bushfires” House of Representatives Select Committee into the recent Australian bushfires, October 2003, Figure 6.1.

⁵³ Parliament of the Commonwealth of Australia, “A Nation Charred: Report on the inquiry into bushfires” House of Representatives Select Committee into the recent Australian bushfires, October 2003. See recommendation 33. <http://www.aph.gov.au/house/committee/bushfires/inquiry/report/front.pdf>

⁵⁴ An analysis in 1999-2000 suggested that a full update of 1:100,000 series maps would require \$10 million per year for 20 years. At the end of that time, some maps would again be 20 years old...

⁵⁵ Department of Transport and Regional Services, Natural Disaster Management, See <http://www.dotars.gov.au/ndr>

⁵⁶ Geoscience Australia, National Mapping Division, “1:100,000 scale topographic mapping pilot for emergency management”, Draft Options Paper 2004.

⁵⁷ *Ibid.*

2.6.5 Profile and Recognition

Stakeholders are very positive about the profile and status the Action Agenda has given their industry. Indeed, there is some anxiety that the conclusion of the Action Agenda will end their time in the limelight.

Despite this generally positive picture, the ABS classification of the profession and the industry continues to be a concern to ASIBA and SSI.

The core of the profession falls into the *Cartographers and Surveyors* unit group (ASCO 2123) within the Building and Engineering Professionals.⁵⁸ The core of spatial information industry falls under *Surveying Services* industry class (ANZSIC 7822), part of the Technical Services group within the Property and Business Services Division.⁵⁹ While the Action Agenda did not specifically recommend action on this front, ASIBA is disappointed that, having gone through a substantial organisational and cultural change process to re-brand themselves as spatial information professionals in a spatial information industry, the Action Agenda momentum has not led to the ABS reclassifying the profession and the industry.

ASIBA reports that the ABS is satisfied that the current classifications are adequate and in line with international practice.⁶⁰ ASIBA argues the reclassification is important for visibility and recognition purposes and to support economic and other analysis of the profession and the industry. ASIBA argues that Australia, having been in the lead on cultural and organisational change in the profession, should take a lead in this area to.

One possible way forward on this issue is to consider a spatial information industry satellite account within the ABS system of national accounts. Satellite accounts allow for the provision of additional information pertaining to a particular activity or for the use of alternative concepts. The ABS has already produced or is working on satellite accounts in some other fields, including tourism, the non-profit sector and information and communications technology.

For example, the ICT satellite account defines ICT products and services and identifies their supply and use, so that a comprehensive set of economic data relating to ICT activity can be compiled for the Australian economy.⁶¹

2.6.6 Vision and Strategy

There is no substantial tension about the vision and strategy of the spatial information industry set out in the Action Agenda. However, circumstances have changed since the Action Agenda was formulated and these changes warrant some discussion.

2.6.6.1 Counter Terrorism

The events of September 11 2001 are the most significant of the changes to circumstances since the Action Agenda was formulated. September 11 has raised the profile of spatial information as an essential requirement of government counter terrorism efforts and terrorism emergency response management.

The National Counter-Terrorism Committee was established by an Inter-Governmental Agreement on national counter-terrorism arrangements in October 2002. It is co-chaired by the Department of Prime Minister and Cabinet and a State/Territory senior official and comprises senior representation from relevant Australian Government agencies, Premiers' and Chief Ministers' departments and police services from each jurisdiction. Its purpose is to:

- provide strategic and policy advice to heads of government and relevant ministers;

⁵⁸ ABS 1220.0 Australian Standard Classification of Occupations (ASCO) Second Edition.

⁵⁹ ABS Australian and New Zealand Standard Industrial Classification (ANZSIC), Chapter 2, "Classification titles and codes".

⁶⁰ The US Bureau of Labor Standard Occupational Classification System has a category "Surveyors, Cartographers, and Photogrammetrists" (17-1020), a sub-group of the Architecture and Engineering Occupations. The North American Industry Classification System puts the industry in the category "Surveying and Mapping Services" (54136), part of the Professional, Scientific and Professional Services Division.

⁶¹ ABS Feature Article, "An Information and Communication Technology Satellite Account", December 2002; See [http://www.abs.gov.au/Websitedbs/c311215.nsf/0/456b9848ae044fb1ca256d350021a6ce/\\$FILE/Dec02_ICT.pdf](http://www.abs.gov.au/Websitedbs/c311215.nsf/0/456b9848ae044fb1ca256d350021a6ce/$FILE/Dec02_ICT.pdf)

- coordinate an effective nation-wide counter-terrorism capability;
- maintain effective arrangements for sharing relevant intelligence and information between all relevant agencies in all jurisdictions;
- provide advice in relation to the administration of the special fund; and
- maintain the National Counter-Terrorism Plan and associated documentation.⁶²

National security is emerging as the key driver for ANZLIC initiatives such as the Australian Spatial Data Infrastructure (ASDI). The issue provides a compelling argument for cooperation between agencies to collate spatial data and GIS capacity in order to maintain a state of preparedness.

As part of this effort, ANZLIC undertook a Counter-Terrorism Project and commissioned Christopher Conybeare to report on using the Australian Spatial Data Infrastructure for Counter-Terrorism.⁶³ The objective of the Project was to identify priority spatial data, tools and skills needed by Australia's security and emergency management agencies and to match those needs with existing resources that can be brought to bear by and across jurisdictions. Raising awareness levels about the scope and potential of spatial information for use in the counter-terrorism efforts, and other issues associated with preparedness, has been an integral part of the project. Conybeare identified four key issues in providing the capability for counter-terrorism:

- data availability;
- technical infrastructure;
- policy settings; and
- governance framework.

Conybeare also set out a strategic pathway involving a program of capability development in three phases. The starting point for this pathway is agreement about governance arrangements and policy settings.

Counter-terrorism and other national security priorities have, in the wake of the events of September 11, raised awareness about spatial data infrastructure and brought to the attention of the highest levels of government the importance of resolving many of the data, technical, policy and governance issues that were also identified in the Action Agenda. This can be expected to continue to exert pressure for positive change towards a more unified national spatial data infrastructure and capability.

2.6.6.2 Other Strategic Drivers

Other current drivers of high-level Australian Government interest in spatial data are natural resource management (including salinity and water property rights), oceans policy and emergency management.⁶⁴

2.6.6.3 Demand Driven Development

The Action Agenda focussed to a significant extent on internal issues, which were appropriate to the institutional capacity building work that needed to be done. With that phase substantially complete, there is consensus that it is time to move beyond the Action Agenda's inherent provider focus and pursue user-oriented initiatives. This is in keeping with the strategic intent of the Action Agenda that the end result is about delivering user-responsive services.

There is consensus that the best way to progress major spatial data initiatives within government is through leveraging off key strategic drivers that demonstrate the relevance of spatial information to issues of importance to senior decision-makers.

⁶² See <http://www.nationalsecurity.gov.au>.

⁶³ Christopher Conybeare, Report of the ANZLIC Counter-Terrorism Project, Using Australia's Spatial Information for Counter-Terrorism, Summarised Version, August 2003.

⁶⁴ OSDM, Policy and Business Drivers for the Australian Government Spatial Data Infrastructure.

2.7 Conclusions

The Action Agenda's strategy and vision for the spatial information industry continues to be appropriate and relevant. The Action Agenda's recommended actions have been effectively and efficiently implemented, noting that many are ongoing.

The Action Agenda development process was successful in establishing effective communication and a shared vision for the spatial information industry. Indeed, the Action Agenda essentially created the concept of a 'spatial information industry'. The Action Agenda significantly raised the profile of the industry, aided in the implementation period by the post-September 11 focus on counter-terrorism and related issues.

The implementation phase was to a large extent occupied with building the institutional capacity needed to carry the industry forward. The implementation phase also saw significant progress on a number of the capacity building initiatives identified in the Action Agenda.

In the post-Action Agenda period, the institutional capacity built during the Action Agenda needs to focus on building the capability within the industry to support innovative services and products to meet specific user needs.

The challenges and opportunities for the spatial information industry identified in the Action Agenda continue to be relevant. In particular, the industry must continue to work on developing its capacity to compete domestically and internationally in an increasingly globalised market for spatial information products and services.

3 Spatial Data Access and Pricing Policy

3.1 Background

On 19 July 2000, the then Minister for Industry, Science and Resources, Senator Minchin, wrote to his Cabinet colleagues inviting them to support the establishment of an Interdepartmental Committee (IDC) on Spatial Data Access and Pricing. The proposal was supported and the IDC commenced its work on 9 August 2000. The IDC was tasked with reporting to Cabinet on:

- A pricing and access policy for Commonwealth spatial data;
- The datasets to which the new policy should apply;
- The principles to be adopted in negotiating spatial data transfer arrangements with the States and Territories; and
- The administrative arrangements for implementing and managing the policy.

The work of the IDC was influenced by the Productivity Commission Inquiry into Cost Recovery by Commonwealth Agencies, which released its draft report on 12 April 2001, and the development of the Spatial Information Industry Action Agenda.

The IDC produced a report in June 2001.⁶⁵ The Spatial Data Access and Pricing Policy was announced in September 2001 and introduced in February 2002.

3.2 Policy principles

The IDC adopted the basic principle that the spatial data access and pricing policy should seek to maximise the benefits to the community. The Australian Government's spatial data holdings are an asset that, if made more accessible, can deliver economic and social benefits far exceeding the direct financial returns of higher levels of cost recovery.

The other basic principle adopted by the IDC relates to online services. Under the Government Online initiative, all appropriate Government services are required to be delivered online. The supply of digital spatial data to the community is certainly an appropriate service for online delivery.

⁶⁵ Interdepartmental Committee on Spatial Data Access and Pricing, *A Proposal for a Commonwealth Policy on Spatial Data Access and Pricing*, June 2001.

3.2.1 Access and Pricing Policy

These policy principles lead to the policy that the price of fundamental spatial data should be based on the marginal cost of transfer. In particular, the fundamental spatial data should be free if provided over the Internet; priced at the marginal cost of transfer if provided as packaged standard product (e.g., CD-ROM); and priced to recover the full cost of transfer for customised product.

The policy also involves the removal of restrictions on commercial value-adding and onselling. Licenses granted to use fundamental spatial data should assert Australian Government copyright, limit Australian Government liability, permit commercial value-adding and sublicensing, subject to acknowledgement of the Australian Government's copyright, but not impose any other restrictions.

Each dataset custodian agency is responsible for maintaining their own data access and management systems, but must comply with an agreed set of standards which support the Australian Spatial Data Directory and a single Australian Government entry point.

There was strong encouragement for agencies to make all their fundamental spatial data available online.

3.3 Administrative Implementing Arrangements

The IDC recommended that the Commonwealth Spatial Data Committee (CSDC) be disbanded. Not because it had been unsuccessful in developing technical standards and related issues, but primarily because it lacked the authority and resources to provide the leadership properly expected of the Australian Government in respect of national spatial data policy.

In its place, it recommended the establishment of an Office of Spatial Data Management (OSDM) operating under an executive policy group and a management committee.

The Spatial Data Policy Executive (SDPE) was to comprise senior representatives, generally at CEO or Deputy Secretary level, of all relevant agencies to develop spatial data policy, establish and monitor performance indicators and report to Government. SDPE was envisaged to meet once or twice a year.

The Spatial Data Management Group (SDMG) was to comprise senior technical representatives from spatial information agencies to provide organisational guidance to OSDM and ensure it is meeting its approved work plan. SDMG was envisaged to meet four to six times a year.

OSDM was envisaged to operate with one SES Officer and 3 other staff and would be the operational body for the SDPE and SDMG. OSDM would develop an annual work plan, manage whole-of-government spatial data infrastructure, represent the Australian Government in negotiating data transfer arrangements with the States and Territories and provide a single point of contact within the Australian Government for the spatial data industry.

The fundamental spatial datasets that are provided under the terms of the policy are on a public listing called the Schedule, which is maintained by OSDM.

3.4 Scope of this review

This review is focussed on evaluating the appropriateness, effectiveness and efficiency of the administrative implementing arrangements. It is not a review of the Spatial Data Access and Pricing policy more broadly.

3.5 Status of Recommendations

The Spatial Data Access and Pricing Policy has only five recommendations. The status of each will be touched on briefly here, with further detail in following subsections.

3.5.1 Provide fundamental spatial data under the ...terms of the policy

The fundamental data to which the spatial data access and pricing policy applies are listed on a Schedule.

The Schedule has seen rapid growth since its establishment and continues to experience new additions and changes to already listed datasets. Consequently, any analysis of the Schedule is merely a snap-shot at an arbitrary moment in time of a substantial work-in-progress.

As of November 2003, there were 110 datasets listed on the Schedule.⁶⁶ The break-up of the Schedule datasets by custodian agency is:

- Aboriginal and Torres Strait Islander Commission (ATSIC): 1 dataset
- Department of Agriculture and Forestry Australia (DAFF): 5 datasets
- Australian Bureau of Statistics (ABS): 5 datasets
- Australian Electoral Commission (AEC): 1 dataset
- Australian Fisheries Management Authority (AFMA): 9 datasets
- Bureau of Tourism Research (BTR): 1 dataset
- Department of Defence: 8 datasets
- Department of Environment and Heritage (DEH): 15 datasets
- Geoscience Australia (GA): 38 datasets
- National Land and Water Resources Audit (NLWRA): 23 datasets
- National Native Title Tribunal (NNTT): 4 datasets

In summary, 38 datasets are provided by GA (35%), 23 by NLWRA (21%), 15 by DEH (14%), 9 by AFMA (8%), 8 by Defence (7%) and 17 by other agencies (15%).

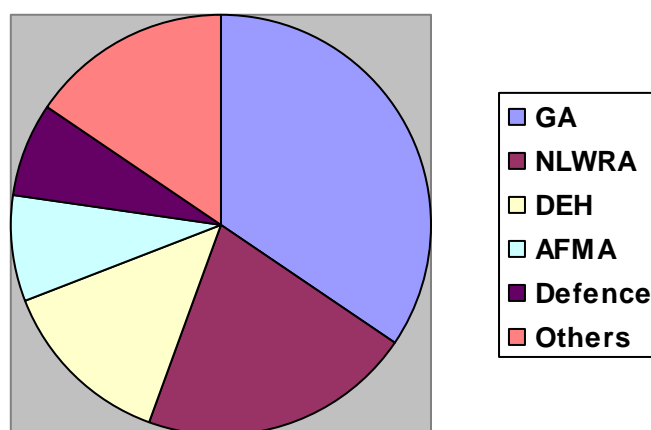


Figure 1: Schedule Datasets by Custodian Agency.

The break-up of the Schedule datasets by theme is:

- Administration: 16 datasets
- Built Environment: 1 dataset
- Earth's Surface Elevation: 5 datasets
- Geodetic Control: 7 datasets
- Natural Environment: 52 datasets
- Property: 8 datasets
- Socioeconomic: 5 datasets
- Topographic: 16 datasets

In summary, 52 Schedule datasets relate to the natural environment (47%), 16 to administration (15%), 16 to topographic (15%), 8 to property (7%), 7 to geodetic control (6%) and 11 to others (10%).

⁶⁶ Office of Spatial Data Management. See <http://www.osdm.gov.au/osdm/schedule.html>.

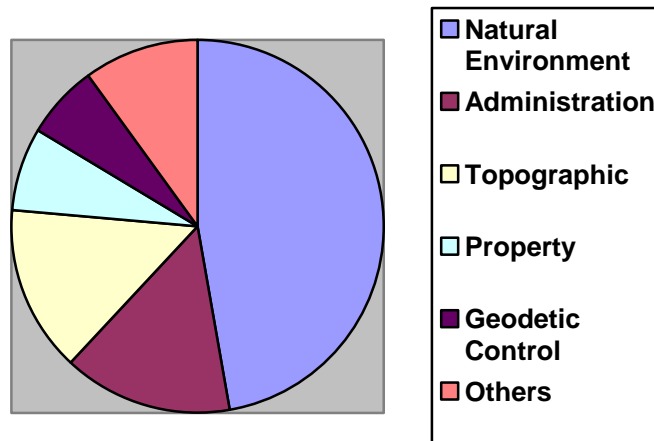


Figure 2: Schedule Datasets by Theme.

Fifty-eight Schedule datasets are listed as available online (52%). Of the 52 Schedule datasets not listed as available online, 16 are listed as available as packaged product (15%), 7 are listed as available as customised product only (6%), 7 are listed as not available in any of the delivery formats (6%) and 22 do not report an availability mode (20%).⁶⁷

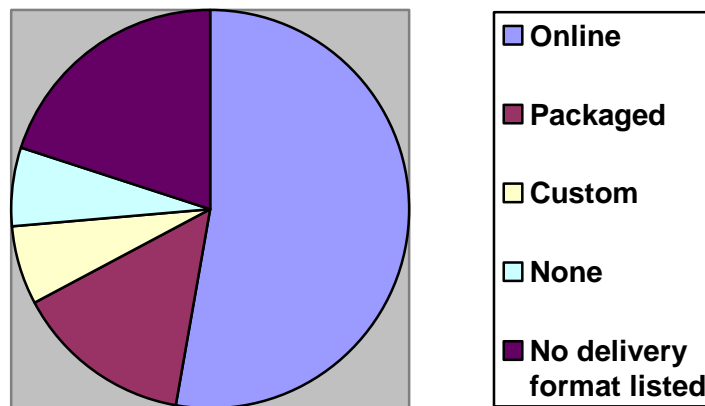


Figure 3: Schedule Datasets by Highest Availability Classification.

In the financial year 2002-3, Australian Government agencies reported:

- spending \$78.2 million on spatial data production and maintenance, of which \$62 million (79%) was on Schedule datasets;
- distributing 90,438 copies of spatial datasets, of which 83,049 were Schedule datasets; and
- earning \$2.5 million from sales of datasets, of which \$1.7 million was from Schedule data sets.⁶⁸

Geoscience Australia is the largest producer and distributor of spatial data. In the financial year 2002-3, it accounted for:

- 77% of reported agency expenditure on spatial data management; and
- 94% of the datasets distributed.⁶⁹

However, reliable information on Australian Government spending on spatial data has proved to be difficult to collect due to differences in recording and reporting practices, both between

⁶⁷ Some datasets are available in more than one delivery format. For datasets available in more than one format, this analysis classifies them according to their highest availability format: (i) online; (ii) packaged product; and (iii) custom product.

⁶⁸ Spatial Data Policy Executive, Annual Report 2002-3, Office of Spatial Data Management.

⁶⁹ *Ibid.*

agencies and within agencies over time. Furthermore, the information on the number of datasets distributed is an underestimate, because not all agencies count or record the number of downloads of online datasets.

The Office of Spatial Data Management is currently conducting an Audit of Schedule datasets. This will be considered in more detail in Section 3.7.1

3.5.2 *Develop an Internet-based public access system...*

The Australian Spatial Data Directory (ASDD) has been established. The gateway to the ASDD is maintained by Geoscience Australia on behalf of ANZLIC as part of its broader Australian Government responsibility for the Australian Spatial Data Infrastructure (ASDI).

The individual ASDD nodes are implemented by State/Territory jurisdictions, Australian Government agencies, and commercial organisations. It is the responsibility of individual nodes to maintain their own metadata and nodes in accordance with the ANZLIC Metadata Guidelines and the ASDD Requirements and Standards.⁷⁰

At the end of June 2004, there were 26 repositories within the ASDD with a total of 37,511 dataset descriptions available for searching. In the quarter ended 30 June 2004, ASDD reports some 81,000 page views and 4,300 visitors to its web site. Approximately 38% of page views come from the Australian domain (.au). Of page views from the Australian domain (.au), about 31% is government (.gov.au), 24% commercial (.com.au), 19% network (.net.au), 17% educational (.edu.au), and 8% CSIRO (.csiro.au). Repository reliability is generally good, with average uptimes of 94%.⁷¹

3.5.3 *Negotiate a multilateral agreement with the States and Territories...*

ANZLIC – the Spatial Information Council has commenced negotiations on a new model agreement using the standard licence for Schedule datasets as a template for making agreements with State and Territory data custodians.

Major national initiatives to improve cross-jurisdictional co-ordination in high priority areas such as counter-terrorism, natural resource management, oceans policy, emergency management and animal health are the major drivers to improving access arrangements.

3.5.4 *Replace the Commonwealth Spatial Data Committee...*

The Commonwealth Spatial Data Committee has been replaced by the envisaged three tier structure comprising the Spatial Data Policy Executive (SDPE), the Spatial Data Management Group (SDMG) and the Office of Spatial Data Management (OSDM).

The SDPE was envisaged to meet once or twice a year. It has met only twice formally and once informally to discuss the role of spatial data in assisting counter-terrorism. The reason for it not meeting more regularly appears to be a lack of interest in meeting by its members. It currently does not intend to meet other than on an *ad hoc* basis. SDPE provides an annual report to the responsible Minister (currently, the Hon Warren Entsch, Parliamentary Secretary for Industry, Tourism and Resources). It approves changes to the Schedule and the annual work plan of SDMG.

The SDMG meets approximately twice a year (as opposed to the four to six times initially envisaged) in May and November. Much of the work of the SDMG is conducted by SDMG workgroups, all of which are managed and supported by the OSDM.

The following working groups have been convened:

- Working Group 1 - Data Schedule; Finished 2002
- Working Group 2 - Policy Review; Finished 2002
- Working Group 3 - Data Management Costs; Finished 2002
- Working Group 4a - User Needs; Finished 2002
- Working Group 4b - Australian Spatial Data Directory (ASDD) and Metadata; Finished 2002

⁷⁰ Australian Spatial Data Directory (ASDD); See <http://asdd.ga.gov.au/asdd>

⁷¹ ASDD Quarterly Report April to June 2004; See <http://asdd.ga.gov.au/asdd/tech/quarterlies/aprjun04.html>

- Working Group 5 - Privacy; Finished 2003
- Working Group 6 - Socioeconomic Data; Finished 2003
- Working Group 7 - Fundamental Data; Finished 2003
- Working Group 8 - Metadata; Current
- Working Group 9 - Data Licences; Current
- Working Group 10 - Survey; Finished 2003
- Working Group 11 - Postcodes; Finished 2004
- Working Group 12 - Schedule; Current.⁷²

The Office of Spatial Data Management (OSDM) has been established as the operational body to administer the SDAP policy. OSDM provides secretariat support to SDMG and SDPE and implements the annual work plan approved by SDPE.

OSDM comprises one SES officer and two other officers. Its annual running cost is around \$500 000 inclusive of staff costs⁷³. This is one officer and \$160 000 less than originally envisaged.⁷⁴ Agencies other than Geoscience Australia initially made contributions to OSDM, including DOTARS who provided one officer for an extended period. However, OSDM is now entirely resourced by Geoscience Australia.

3.5.5 Consider the costs and benefits of accelerating accessibility...

The OSDM prepared a budget submission seeking funding to accelerate the provision of spatial data online and to address other identified deficiencies in the Australian Spatial Data Infrastructure. The submission was considered twice by the SDMG, which decided in its meeting of November 2003 to advise SDPE that the funding submission should not proceed. The key reason was the low probability of receiving funding in the budget climate at that time.⁷⁵

3.6 Key Achievements

The administrative structure recommended for implementing the Spatial Data Access and Pricing policy has been appropriately implemented to effectively and efficiently achieve the aims of the policy. These arrangements continue to be appropriate.

A Schedule of fundamental datasets available under the terms of the policy has been established. This includes putting in place a license agreement for Schedule datasets that removes copyright restrictions on commercial value adding. The Schedule has grown from an initially identified 80 separate datasets to some 110. The increased availability and decreased prices has resulted in a substantial rise in the number of datasets downloaded or sold.

Twelve working groups have been established in thematic areas requiring detailed consideration. Nine of these have completed their work and three are currently active.

The administrative structure has facilitated the development of whole-of-Australian Government approaches to the development of Australian Government spatial data infrastructure. It provides a mechanism for sharing of experience and expertise between Australian Government agencies and a focal point within the Australian Government to foster the development of a private sector spatial information industry.

3.7 Issues

3.7.1 Audit of the Schedule

The OSDM is conducting an audit of datasets on the Schedule and working with agencies to achieve higher levels of compliance with the standards. Phase 1 of the audit is complete. It

⁷² OSDM <http://www.osdm.gov.au/osdm/committees.html#SDPE> and personal communication from OSDM.

⁷³ OSDM expenditure in 2003-4 was \$489 000 and its budget for 2004-5 is \$541 000.

⁷⁴ Spatial Data Assess and Pricing, *op cit*, page 5.

⁷⁵ OSDM, Report against recommendations from the IDC Report on the SDAP Policy, Agenda paper for SDMG meeting of 7 July 2004.

comprised a desk review of the discoverability of the datasets on the Schedule and preliminary assessment of their compliance with the required standards.

The Schedule Working Group reported to SDMG that “the major concerns arising from the Phase 1 Audit were:

- the high proportion of Schedule datasets that could not be found on the Agency website;
- the vagueness of some dataset names on the Schedule, which refer to generic categories of data rather than specific datasets; and
- the large number of Schedule datasets without metadata on the Australian Spatial Data Directory (ASDD).”⁷⁶

The low level of discoverability of datasets on the Schedule was due to imprecise names and deficient metadata. A key cause is believed to be the way agencies were asked to nominate datasets for the Schedule—there was no requirement for precision in the original criteria for listing. The OSDM has provided detailed reports on the Phase 1 Audit to custodian agencies and a number have responded. The Schedule Working Group has made recommendations for improvements.

The Phase 1 Audit also indicated that there are some datasets on the Schedule that are not fully compliant with the requirements of the Policy, yet are available on generally similar terms. This will be re-examined by OSDM as part of the second phase of the audit.

The Schedule Working Group considered what should be done with datasets on the Schedule that, when audited, did not fully comply with all the conditions of the policy. The Schedule Working Group determined that such datasets would be removed from the Schedule. However, in order not to jeopardise the public benefits gained from knowledge of and access to the datasets that listing on the Schedule brings, the Schedule Working Group decided they should be transferred to an Auxiliary List. Datasets on the Auxiliary List would be available under broadly similar terms to Schedule datasets, even though not fully compliant. OSDM is to maintain the Auxiliary List in the same way it maintains the Schedule. The process of listing a dataset on the Schedule has also been amended to include an audit of its compliance with the Policy.

The Audit has revealed that, three years on, the OSDM’s efforts in developing and maintaining the Schedule should be on working with custodian agencies to achieve high levels of compliance with the policy and thereby achieve the accessibility that is the policy goal.

3.7.2 *OSDM focus*

Several stakeholders commented that OSDM’s interest is too focussed on technical and intra-government issues related to the development of the Australian Government’s spatial data infrastructure.

ASIBA would like to see OSDM place a higher priority on its role to foster the development of a private sector spatial information industry. For example, ASIBA thinks OSDM should promote the role spatial information could play in addressing problems of interest to government. This would help grow the general demand for spatial information products and services. ASIBA would focus on promoting the capabilities of the private sector to service that demand, with individual companies marketing their own particular products and services.

The SDAP policy certainly did envisage an industry development role for OSDM focussed on supporting the development of a viable industry that adds value to Australian Government spatial data.⁷⁷ OSDM continues to see fostering the development of a private sector spatial information industry as part of its role.⁷⁸ Yet there was concern that OSDM was too aloof from the private sector. OSDM has begun meeting regularly with ASIBA to address this concern.

User agencies in the Australian Government, while acknowledging the importance of technical infrastructure issues, do not necessarily see them as of the highest priority in improving their

⁷⁶ Data Schedule Working Group, Agenda Papers for SDMG meeting of 7 July 2004.

⁷⁷ SDAP Policy, *op cit*, page 17.

⁷⁸ OSDM. See <http://www.osdm.gov.au/osdm/about.html>

ability to get value out of spatial data. Issues of administrative consistency and standards were more likely to top their list of priorities. In particular, inconsistent approaches to collecting data across different agencies and in different jurisdictions are a significant impediment to using spatial information to analyse the spatial dimensions of the human experience. Such analysis would, for example, help these agencies better understand how people's location affects their access to and demand for infrastructure and services. Since the State and Territory governments hold and collect much of the most valuable spatial data, these agencies felt that a truly national approach, rather than just an Australian Government approach, was required.

While the user agencies may be frustrated about the pace of progress towards nationally consistent approaches and standards, progress is being made (see Section 2.6.4 for further discussion). A national approach is the responsibility of ANZLIC – the Spatial Information Council. Within the ANZLIC framework, OSDM's responsibility is to be a co-ordinating agency able to represent a whole-of-Australian Government perspective. Thus, in developing a national approach, OSDM's core responsibility is to lead and co-ordinate an Australian Government approach. Furthermore, OSDM has rather limited resources and authority. Datasets remain under the control of custodian agencies.

Nevertheless, OSDM should ensure it gives appropriate priority to its industry development role and to the interests of user agencies.

3.7.3 *Financial Implications of SDAP Policy for Agencies*

The SDAP policy noted that Australian Government agencies received annual revenue of some \$3.8 million from the distribution of fundamental spatial data sets (almost all earned by three agencies). It noted that the Productivity Commission's review of cost recovery recommended that agencies be fully funded for the cost of producing and distributing core information. If implemented, simplistically, this would mean the spatial data provider agencies should receive budget funding to replace revenue lost. Lower prices would also be expected to increase demand and increase costs to service it. Any reduction in revenue or increase in costs in the spatial data producing agencies would adversely affect their core data programs.⁷⁹

Accordingly, the SDAP policy recommended that OSDM bring forward a budget submission making a case for Australian Government investment in spatial data. The submission was to address, among other things, the financial implication for agencies of losing revenue from data sales.⁸⁰

As noted in Section 3.5.5, OSDM developed a budget submission, but it was decided not to proceed with it primarily on the assessment that it had a low probability of success at the time. As a result, the spatial data provider agencies have not received budget supplementation to replace revenue lost from sales of datasets they have made available under the terms of the SDAP policy.

The SDPE annual report of 2002-3 noted that in that financial year Australian Government agencies reported earning \$2.5 million from sales of spatial datasets—\$1.3 million lower than the \$3.8 million reported in 2001.

The decline in revenue from data sales, increased demand for free datasets and the lack of replacement budget funding is beginning to impact in some areas. Figure 4 show revenue from sales of 1:250,000 topographic datasets produced by the National Mapping Division of Geoscience Australia. Figure 5 show the number of units of the datasets distributed.

The current year has seen an explosion in volumes, due to these datasets becoming available online in September 2003. Under the SDAP policy, internet downloads of this data are free, which is reflected in the lower revenues.

⁷⁹ SDAP Policy, *op cit*, page 6.

⁸⁰ *ibid*, page 6.

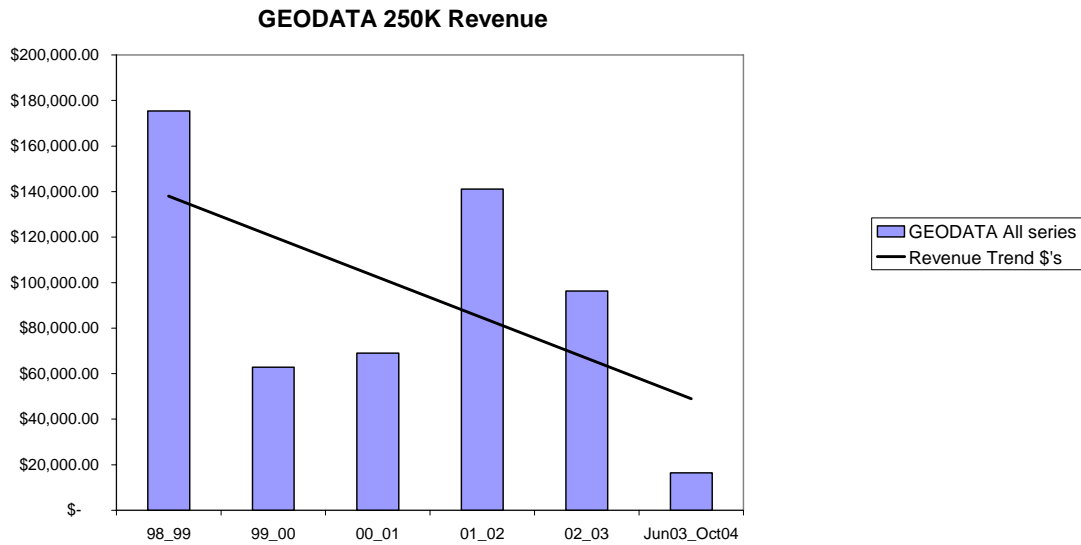


Figure 4: Revenue from sales of 1:250,000 topographic geodata.⁸¹

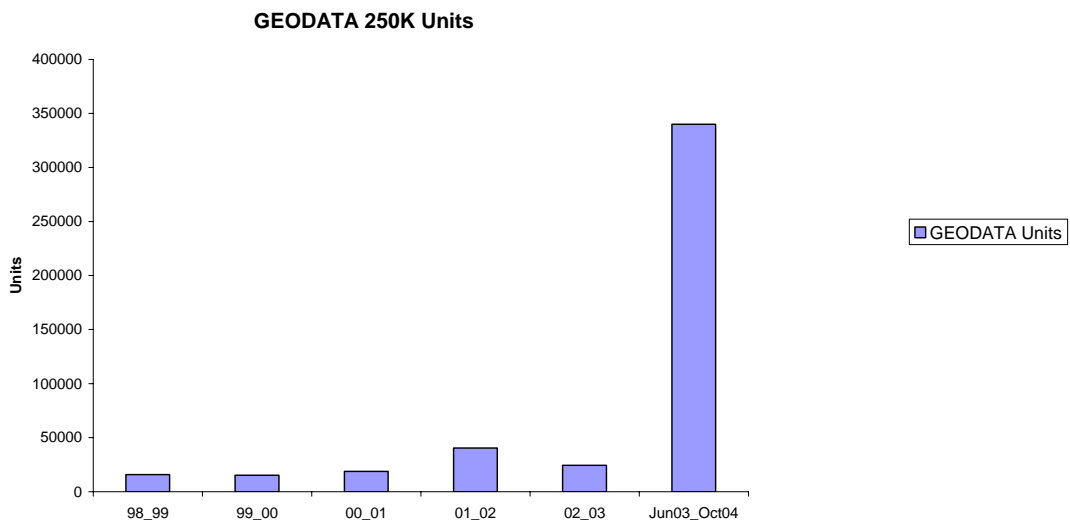


Figure 5: Number of units of 1:250,000 topographic geodata sold.⁸²

National Mapping Division is now re-examining its spatial data production processes and is looking to better prioritise activities to demand. It has commenced work on a 10-year Topographic Information Strategy which is expected to be complete by July 2005. As part of this effort, it is looking at the demand history for its datasets since 1999. It is considering demand, both in terms of volume and value, for its various products. It is looking at which sectors of the economy the demand is coming from and at the geographic distribution of spatial data demanded. This analysis is expected to inform its decisions about priorities for topographic information.

⁸¹ National Mapping Division, Geoscience Australia.

⁸² *ibid.*

While financial pressure from lost data sales revenue can drive compensating efficiencies in data production, the longer-term sustainability of providing high-quality fundamental spatial data at only the marginal cost of transfer (free if provided over the Internet) without budget supplementation is an issue the SDPE should consider.

3.7.4 Spatial Data Policy Executive

The Spatial Data Policy Executive (SPDE) was envisaged as a policy executive comprising senior representatives, generally at the CEO level, from all relevant Australian Government agencies, reporting to a Minister and directing the activities of the Spatial Data Management Group and the Office of Spatial Data Management. More specifically, the role of the SDPE was to “report annually on implementation of the policy and to review and evaluate the efficacy of:

- the data schedule;
- the access and pricing arrangements;
- the arrangements for custodianship and sponsorship;
- the annual workplan; and
- the coordination arrangements.”⁸³

It was envisaged that SDPE “need meet only once or twice per year”.⁸⁴

The SDPE has in fact met formally only twice. It also met informally to consider the role of spatial information in national counter-terrorism strategy. It has not met in the last 18 months. The reason appears to be a lack of interest from its members in meeting. It is not easy, and not easy to justify, bringing the generally CEO or Deputy Secretary level people that comprise the SDPE together unless there is appropriate business to conduct.

The Chair of SDPE—the CEO of Geoscience Australia—is in effect performing the role of the SDPE without holding meetings of SDPE by using contact with its members in a range of non-SDPE contexts. For example, many are involved in the National Counter-Terrorism Committee.

Inter-agency communication and management oversight below the CEO or Deputy Secretary level is being provided by the Spatial Data Management Group, which is meeting twice a year. Its working groups are where most of the action is.

Despite being relatively inactive, it is not considered appropriate for the SDPE to be disbanded. Its members constitute a network of senior public service managers with interests in Australian Government spatial data, who can be called on either informally or formally to consider appropriate matters.

3.8 Conclusions

The Spatial Data Access and Pricing Policy has been implemented. The administrative arrangements to support that implementation are generally appropriate and operating effectively and efficiently.

Despite this generally positive conclusion, there are some areas where the implementation has not entirely lived up to expectations.

The predecessor of the current administrative coordination arrangements was the Commonwealth Spatial Data Committee. It was disbanded not because it had been unsuccessful in developing technical standards and related issues. But primarily because it lacked the authority and resources to provide the leadership properly expected of the Australian Government in respect of national spatial data policy.

Despite the best intentions of the IDC, the current arrangements, although probably an improvement, seem to be suffering from similar problems.

⁸³ SDAP Policy, *op cit*, page 19.

⁸⁴ *Ibid*, page 5.

It does not appear that spatial information agendas of themselves can attract and sustain enough senior officer commitment to the kind of senior level policy committee the IDC envisaged with the creation of the SDPE. Nevertheless, the existence of the SDPE does provide a useful network of senior managers with spatial information interests as part of their portfolio. It can of course meet should the need arise.

There is considerable consensus that the best way to progress major spatial data initiatives within government is not by pushing them out from a specialist policy committee like SDPE, but rather by using key strategic issues of importance to senior decision-makers to progress spatial information policy initiatives. National counter-terrorism strategy is the top of the list of such key strategic issues, but there are others.

Consequently, rather than seek to re-invigorate the SDPE, it is preferable to continue the demand-driven strategy currently being pursued. SDPE should continue as a formal network, with its substantive reporting and approval responsibilities being acquitted by the Chair, advised by SDMG and supported by OSDM. SDPE can of course formally meet as the need arises.

The SDAP policy appears to have resulted in a decline in revenues from sales of datasets. While the amounts are not significant across the Australian Government, it may be an issue for some particularly affected agencies. Although the added financial pressure can drive compensating efficiencies in data production and distribution, the longer-term sustainability of providing high-quality fundamental spatial data at only the marginal cost of transfer (free if provided over the Internet) without budget supplementation is an issue the SDPE should consider.

To support the demand-driven strategy to progressing spatial data initiatives, SDMG and OSDM will need to embrace issues of importance to spatial information user agencies and guard against any tendency to become engrossed in technical spatial data infrastructure issues of interest to spatial information provider agencies.

OSDM, while fulfilling its primary intra government role as a facilitating and coordinating agency for spatial data management, must continue to be mindful of its role to engage with and appropriately support the development of the private sector spatial information industry.

4 Glossary

ABS	Australian Bureau of Statistics
ANZLIC	ANZLIC – the Spatial Information Council (formerly Australia and New Zealand Land Information Council)
ASDD	Australian Spatial Data Directory
ASDI	Australian Spatial Data Infrastructure
ASEIRA	Australasian Spatial Information Education and Research Association
ASIBA	Australian Spatial Information Business Association
COAG	Council of Australian Governments
CSDC	Commonwealth Spatial Data Committee
DITR	Department of Industry, Tourism and Resources
GIS	Geographic Information System
G-NAF	Geocoded National Address File
GPS	Global Positioning System
ICT	Information and Communications Technology
IDC	Interdepartmental Committee
ISO	International Standards Organisation
OGC	Open Geospatial Consortium
OSDM	Office of Spatial Data Management
PSMA	PSMA (Public Sector Mapping Agencies) Australia Limited
SDMG	Spatial Data Management Group
SDPE	Spatial Data Policy Executive
SSEFAC	Spatial Sciences Education and Skills Formation Advisory Committee
SSI	Spatial Sciences Institute
VARs	Value Added Resellers
W3C	World Wide Web Consortium