



# COMMONWEALTH GOVERNMENT INITIATIVES TO SUPPORT THE DEVELOPMENT OF THE AUSTRALIAN SPATIAL DATA INFRASTRUCTURE (ASDI)

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## ABSTRACT

The Commonwealth Government of Australia is taking a lead role in the development of the Australian Spatial Data Infrastructure. As well as supporting the initiatives of the Australia New Zealand Land Information Council (ANZLIC), the Commonwealth Government is putting in place policies that will improve the availability and access to geographic information required by government, business and the community.

This paper explains the Commonwealth ASDI policy and demonstrates how recent changes in the Australian Surveying and Land Information Group (AUSLIG) will deliver fundamental datasets and provide opportunities for industry involvement in their production, value adding and distribution.

## THE ASDI – WHY IS IT AN ISSUE?

The Commonwealth Government is a large producer, sponsor and user of national spatial data sets. Spatial data underpin the planning and management of land use, infrastructure, mining, agriculture, forestry, environmental, defence and emergency services activities across the nation. As such spatial data can be viewed as an infrastructure necessary for economic growth and national prosperity.

Many current datasets are out of date, inconsistent between jurisdictions and are attracting increasing criticism from users. According to an Industry Commission statement published in September 1997 much of the data collected in Australia relating to the physical condition of natural resources lacks comparability and uniformity. Lack of comparability means no meaningful comparison is possible between different land management practices and this significantly reduces the usefulness of the information collected.

Increasing pressure to reduce government expenditure is making it more important for agencies to ensure that investments made in spatial data are put to good use. The ideals of the ASDI, which promise better access to nationally consistent spatial data sets are therefore being actively supported by the Commonwealth Government.

Expenditure for the production of these data has been justified in terms of economic benefit. A study undertaken by Price Waterhouse in 1995 of the economic benefits arising from investment in spatial data infrastructure revealed that for every dollar invested in producing spatial data, \$4 of benefit was generated in the economy. In 1989 – 1994 these benefits were in the order of \$4.5 billion distributed across the broad spectrum of economic activities.

Government support for the development of the ASDI was urged by the Information Industries Taskforce, headed by Professor Ashley Goldsworthy. The Taskforce recommended providing support for key infrastructures such as the ASDI.

## THE COMMONWEALTH POLICY

A Commonwealth policy paper on the ASDI has been developed by the Commonwealth Spatial Data Committee (CSDC) and is available on the Internet at <http://www.auslig.gov.au/pipc/csdc/csdcmain.htm>. This paper was developed after various forums were held to gain government, industry and stakeholder input. The key elements of the policy are:

### Policy Objectives

- Develop a better spatial data infrastructure to benefit the Australian community.
- Ensure that the knowledge of and accessibility to valuable datasets is achieved.
- Minimise the costs associated with accessing data.
- Minimise duplication to save cost associated with duplicated and partially duplicated datasets.
- Ensure strong coordination between the various jurisdictions.
- Facilitate the development of a stronger private sector geospatial data industry.

### Policy Implementation Elements

#### *General*

- Demonstrate Commonwealth commitment to the ASDI.
- Commit the Commonwealth to making government data readily accessible to the community.
- Demonstrate Commonwealth commitment to stimulating economic growth by generating new geospatial information industry opportunities.
- Call upon the States and Territories to express a similar commitment.
- Develop an incentive scheme to ensure cooperation from various jurisdictions (provision of some Commonwealth funding to bring fundamental datasets up to defined national standards).

#### *Institutional*

- Mandate CSDC as the forum responsible for ASDI matters at Commonwealth level with the Department of Industry, Science and Tourism (DIST), through AUSLIG, providing the focus.
- Ensure Commonwealth agencies have senior policy level representation on CSDC.
- Support national policy and coordination leadership role of ANZLIC.
- Formalise link between CSDC and the Office of Government Information Technology (OGIT.)
- Establish stakeholder forums to provide advice to CSDC. Membership to potentially include industry, users, education and research. Promote establishment of similar stakeholder forums within all jurisdictions and at the national level through ANZLIC.
- Ensure a role for industry in the development of the Australian Spatial Data Infrastructure by ensuring industry participation in production and maintenance of fundamental data sets as well as providing access and pricing policies to enable value adding to be undertaken by industry.

## *Fundamental datasets*

- CSDC will work with agencies to identify fundamental Commonwealth datasets and assist in making them widely available in accordance with national policies.
- CSDC will identify Commonwealth needs for fundamental national datasets.
- Establish a mechanism within CSDC to ensure that Commonwealth agencies planning to expend funds on data acquisition or upgrade do not duplicate existing datasets. Development of datasets within a particular theme should be undertaken in cooperation with the lead agency or sponsor for that theme. That lead agency should cooperate with agencies in other tiers of government and the private sector on issues of data collection, standards and content for that theme.

## *Standards*

- Identify where standards are required and promote their development.
- Implement national standards and investigate funding options for custodians to bring their data holdings to these standards.

## *Clearinghouse (distribution network)*

- Adopt consistent (eg. average cost of transfer) pricing policy and data licensing agreements within the Commonwealth.
- Implement the CSDC Custodianship Guidelines.
- Adopt the ANZLIC Guidelines for Core Metadata Elements in the Commonwealth.
- Implement a national directory. The Australian Spatial Data Directory will be a joint initiative of Australian ANZLIC members, with AUSLIG, the Environmental Resources Information Network (ERIN) and the National Resource Information Centre (NRIC) jointly responsible for the national coordination and implementation of the national node.
- Investigate the issues and develop an implementation plan for a distributed networked national database system to enable access to datasets.

## COMMONWEALTH GOVERNMENT ASDI RELATED INITIATIVES

Some specific areas where the Commonwealth is contributing to the development of the ASDI are outlined below:

### 1. Providing support and national leadership in policy development and national coordination activities.

The Commonwealth Government, through AUSLIG, funds the Secretariat for land information coordinating bodies such as ANZLIC, the Intergovernmental Committee for Surveying and Mapping (ICSM) and the CSDC. The Commonwealth is also actively represented on these bodies. The Commonwealth coordinates its marine activities through the Heads of Marine Agencies (HOMA). The Marine Data Group was established by HOMA and CSDC to coordinate marine data management in Australia.

The Commonwealth is an active participant in other relevant ministerial councils with an interest in geographic information management issues such as Australia New Zealand Minerals and Energy Council (ANZMEC), the Australia New Zealand Environment and Conservation Council (ANZECC) and the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ).

### 2. Providing a Commonwealth focal point for ASDI implementation initiatives.

It is important that a single agency is identified with ASDI responsibility. This is necessary to ensure Ministerial responsibility and to enable proposals to be brought forward to government. Announcements in the 1996 federal budget gave AUSLIG this responsibility.

### 3. Capturing (and providing funding as necessary) national fundamental datasets required in the national interest.

There are various Commonwealth programs contributing to creation of fundamental datasets. Many of these programs are undertaken in partnership with State and Territory programs. Some of the current programs include:

- AUSLIG's contribution towards the creation of national fundamental data sets in topography (National Topographic Map Series and Geodata), geodetic framework, Australia's International Maritime Boundaries and an archive of remotely sensed data collected through the Australian Centre for Remote Sensing (ACRES);
- The Australian Geological Survey Organisation (AGSO) is developing national geoscience and resource information datasets;
- The Australian Bureau of Statistics developing and funding base mapping for national statistical census activities as well as collecting and distributing other spatially related socio economic data;
- The Department of Primary Industry and Energy developing and funding Landcare activities and other elements of the Natural Heritage Trust such as the National Land and Water Resources Audit;
- Environment Australia developing and funding the Australian Coastal Atlas project and elements of the Natural Heritage Trust;
- The National Native Title Tribunal is developing a database of native title interests over Australia; and
- The Department of Defence is developing various spatial datasets through organisations such as the Army Topographic Support Establishment, The Air Force's Aeronautical Information Service, the Navy's Hydrographic Service and Australian Oceanographic Data Centre.

### 4. Implementation and on going management of the Australian Spatial Data Directory. (ASDD)

The ANZLIC Metadata Working Group has recommended a technical solution based on Internet technology and distributed databases. The Commonwealth has accepted the role of national coordinator for the implementation of the ASDD. This will be undertaken as a joint project between AUSLIG, ERIN and NRIC. A central node and user interface will be established which links the individual jurisdictional nodes to form the ASDD.

ERIN, Land Victoria, and the Western Australian Land Information System (WALIS) have developed a Prototype Distributed Data Directory to demonstrate technology which could be used for the ASDD and which has assisted the ANZLIC Working Group in identifying implementation issues. The directory queries 1261 metadata entries, 24 held at ERIN in Canberra, 430 held at Land Victoria in Melbourne, and 807 held at WALIS in Perth. The prototype is available at <http://www.erin.gov.au/net/directory.html>.

Other ANZLIC jurisdictions have directories at various stages of development and are committed to developing ASDD compliant online directories.

### 5. Contribution to the development of national standards.

National standards are developed as required by the user community. It is in the Commonwealth interest to promote the development of national standards for spatial data where they are not available. This is particularly the case where the Commonwealth is a significant user of the national data. The Commonwealth Government provides funding for Standards Australia to coordinate standards development.

### 6. Research and development

The Commonwealth government funds a number of R and D programs that could potentially provide funding for ASDI related activities, including the provision of funds for Australian Research Council (ARC) grants. Other R&D programs are available for industry. Details on some of these programs are available on the AusIndustry home page at <http://www.ausindustry.gov.au/>

At the agency level AUSLIG, for example, is sponsoring ASDI related projects at several universities and will be expanding this activity in 1998-1999.

## 7. Promotion and education in relation to the ASDI.

A number of industry forums have been held in conjunction with ANZLIC, CSDC, the Institution of Surveyors Australia, the Mapping Sciences Institute Australia (MSIA) and the Australasian Urban and Regional Information Systems Association (AURISA) to gain input for the development of the Commonwealth ASDI policy. AUSLIG has established an ASDI page on its web site at <http://www.auslig.gov.au> which will be kept up to date with ASDI developments.

AUSLIG has also been actively promoting the ASDI internationally. The Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGISAP), actively supported by AUSLIG, has used the ANZLIC ASDI model as the basis of its definition for the Asia Pacific SDI. AUSLIG, on behalf of the PCGISAP is arranging the third Global Spatial Data Infrastructure Conference in Canberra on 17 – 19 November 1998. This conference will provide the opportunity for interchange of views on SDI matters around the world.

## CHANGES TO AUSLIG - INCREASED OPPORTUNITY FOR INDUSTRY

A number of changes have been implemented in AUSLIG since the Coalition Government was elected in 1996 resulting in increased opportunities for industry. These changes are summarised below:

- Sinclair Knight Merz purchased AUSLIG's commercial activities following a competitive tendering process and evaluation by an independent assessment team;
- Airesearch Mapping, Computer Graphics, Terralink NZ and the NSW Land Information Centre were appointed to a panel of service providers for map and data production associated with AUSLIG's national mapping program following a competitive tendering process and evaluation by an independent assessment team;
- British Aerospace Australia was awarded a contract to undertake mapping under a facilities management arrangement using AUSLIG equipment and procedures;
- Electro Optic Systems was awarded a contract to construct, operate and maintain a satellite laser ranging observatory at Mt Stromlo to replace the Orroral observatory;
- United Photo and Graphic Services was awarded a contract to maintain AUSLIG's archive of aerial photography and manage distribution;
- An existing contract to British Aerospace Australia for the operation of AUSLIG's remote sensing operations continued;
- An increased emphasis on seeking and using commercial organisations to provide value added products incorporating AUSLIG fundamental data; and
- A new core organisational structure was established following a review of remaining functions undertaken by AUSLIG staff employed under the Public Service Act.

## CONCLUSION

The ASDI clearly offers the potential of making better quality geographic information available. Many current Commonwealth Government initiatives are contributing towards the ASDI and a coordinated approach is required to ensure consistency. AUSLIG's support for coordination bodies, development of fundamental data and contribution to the creation of the Australian Spatial Data Directory is providing an impetus for the ASDI development.

## References

- Industry Commission, 1997, Ecologically Sustainable Land Management, draft report. URL: <http://www.indcom.gov.au/inquiry/eslm/draft/index.html>
- Commonwealth Spatial Data Committee, Draft Commonwealth Position Paper on the ASDI. URL <http://www.auslig.gov.au/pipc/csdcsdi4.htm>
- Australia New Zealand Land Information Council, 1995, Australian Land and Geographic Data Infrastructure Benefit Study, Australian Government Publishing Service, Canberra. URL <http://www.anzlic.org.au/>
- The Information Industries Taskforce, July 1997, "The Global Information Economy, The Way

<http://www.auslig.gov.au/techpap/irwin1.htm>

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