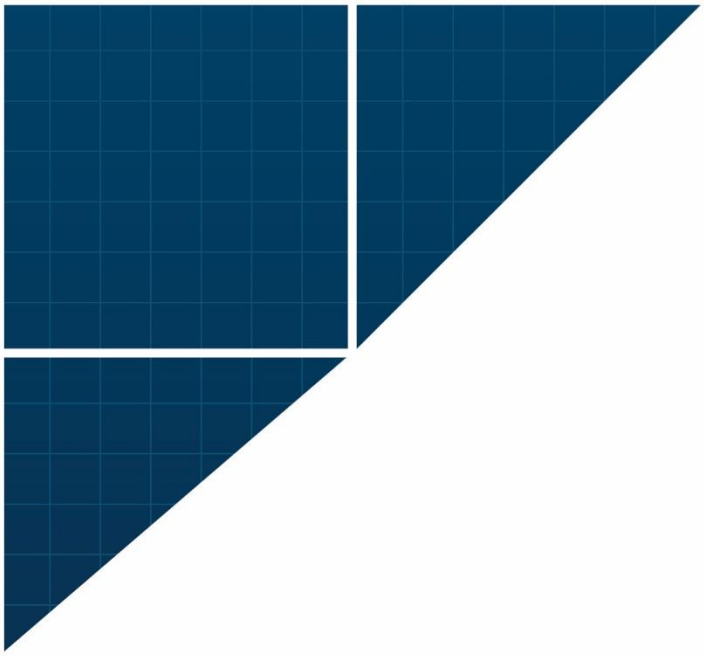
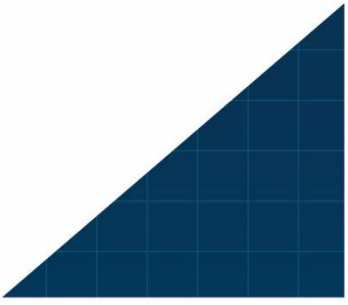


SURVEYING & SPATIAL SCIENCES INSTITUTE

Submission to the Productivity Commission Inquiry into Data Availability and Use

July, 2016



Who are we

The Surveying & Spatial Sciences Institute (SSSI) is Australia's peak body representing the interests of surveying and spatial science professionals, combining the disciplines of land surveying, engineering & mining surveying, cartography, hydrography, remote sensing and spatial information science. Our members are an integral part of the data supply chain, beginning with the creation of data through measurement, followed by the organisation and classification of this data into meaningful information, and finally analysis and use by others to support our societal needs and to solve often complex problems. The types of data created by members is many and varied, but of note is the creation of cadastral survey plans to support state land title registers, as well as As-Constructed plans (Works-as-executed) that underpin an estimated $5.7 trillion dollar Australian residential property market[1].

Industry Accomplishments in Data Availability and Use

The last 5 years has seen a steady increase in the availability of public data from governments of all levels. Most recently, the release of the Geocoded National Address File as open data, as well as the availability of other public datasets as open data has provided the opportunity for businesses to expand into new and emerging technology markets. We believe growth in these new markets will continue as businesses discover new ways of providing value in the form of goods and services to consumers, and governments continue to relax policy and legislative based controls on the data they collect and hold.

It has been encouraging to observe all levels of government implementing technical solutions with respect to public data availability and use. At a national level, initiatives lead by National ICT Australia (NICTA) in developing solutions such as National Map have demonstrated how low cost and leading edge technology can have positive effects on the rate of acceptance and adoption of portal based visualisation tools. In addition, whilst only a small number of organisations had initially the funds or understanding to adopt and implement data access and use policies, we are now seeing many more organisations implement these kinds of services and in doing so, have increased the likelihood of economic growth with relation to data availability and use.

Interestingly, we have observed that although data availability and use policies and the software open source community complement each other very well, e.g. National Map was originally build using the open source platform Cesium (cesiumjs.org), this pairing of is not necessary to gain the economic advantages we believe are present with relation to open data initiatives.

Issues

However, along with the successes of government initiatives, a number of issues face our industry in relation to productivity within the data supply chain.

1. Digital lodgement of cadastral survey plans, although a good thing still has teething problems in different states. Technical issues, lack of government resources, lack of adequate end user training, and poor communication in changes to the lodgement process has also resulted in limited uptake and use of these systems. This is a matter of ongoing concern and action for SSSI.
2. Although a standard exists for recording Quality of Data (AS5488), the uptake of this standard has been slow. This is perhaps due to the following:
    a. The way in which the standard was written limits its application to a small subsector, yet the principles it promotes are valid and important for the entire industry
    b. Disputes around wording used in the standard, where a person is claiming Intellectual Property in relation to the wording are ongoing.
3. Works-as-executed data forms the life-blood for Local Authorities and Utility organisations in terms of activating supply of services to new developments and their ability to respond correctly to Dial Before You Dig requests. Time to incorporate this data varies from a few days to years depending on different factors. Issues our members are faced with include:
    a. Many organisations have no standard way for data to be supplied. Data therefore arrives in a myriad of formats and conventions resulting in delays in incorporation into organisational datasets.
    b. Some organisations now pre-determine how data is to be delivered. There is currently around seven different competing As-Constructed (Works-as-executed) standards in use around the country. Some of these require specific software or software modifications in order to adhere to them. Adopting such standards are good for the spatial science teams, however, for engineering surveyors who have to deliver data accordingly it can become difficult. Neighbouring councils may have different standards forcing our members into extra work or software purchases.
    c. With a few exceptions, As-Constructed standards that define the detail and quality of data delivered to some organisations is not matched with similar levels of detail and quality when data is supplied back to industry. This situation results in a one way benefit and prevents a cycle of continuous improvement in the quality of the data over time.
4. Access to particular public datasets required by law to be checked and verified, such as existing cadastral survey plans for land boundary reinstatement activities, or Aboriginal and Torres Strait Islander cultural heritage registers for land development activities, is being hindered or restricted in terms of:
    a. High cost of fees associated with access to the required data

b. Loss in productivity due to a lack of transparency in the level of detail and fit-for-purpose of data such as survey cadastral plans.

c. The interpretation of legislation, such as the Qld Aboriginal Cultural Heritage Act 2003, that potentially limits access to the required data

d. Formats that are not machine readable or easily digested by other information systems such as PDF or Microsoft Word.

In these instances, business is incurring substantial costs in relation to both time and money for undertaking work that adds little or no value to the consumer or supply chain process.

5. Privatisation of land registers and the risk that data held within the repositories will become more difficult or costly to access, hindering economic growth and social advances in new and emerging technology markets.

6. Data quality is maintained at current levels and continuously measured to ensure that the quality doesn't degrade if and when public data is managed by the private sector.

Suggested Improvements

1. Improved linkage between and visualisation of data. The idiom a picture is worth a thousand words holds very true with relation to data and how we best interact with it. 80% of all data collected has a locational aspect to it and therefore can be visualised and understood far better geographically or pictorially than texturally. More specifically, linkages between different datasets when undertaken visually will:

    a. Encourage best practice when searching for all available evidence before making assessments or decisions.

    b. Assist in improving data integrity and quality

    c. Avoid costs related to the acquisition of data that is not fit for purpose.

    d. Improve service delivery by the surveying and spatial information professions to the general public

    e. Provide a more collaborative working environment between surveying and spatial information professions and government

    f. Provide transparency as to the cost of data acquisition and publication

    g. Encourage innovative development between government and the surveying and spatial information profession as we move from a paper based to a digital data environment.

2. We also believe that standards should play an important role with relation to data access and data quality. We would suggest activities need to be actioned to:

    a. Rework AS5488 to remove issues that prevents its adoption

    b. Develop a single As-Constructed standard across Australia.

    c. Ensure machine readable data formats are specified in data access standards or applicable government legislation.

3. Adequate assurances are in place to protect both the integrity and quality of public data in data maintenance service activities.
4. Recognition of professional certification of surveying and spatial information professionals in contracts or employee position descriptions to enhance the confidence and quality of survey and spatial services produced by the industry.
5. Encourage more public / private partnerships with regards to systems and processes that deliver public data.

References

1. Corelogic RP Data Property Capital Markets Report 2015

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