

DRAFT NATIONAL ENABLING TECHNOLOGIES STRATEGY

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SPATIAL TECHNOLOGIES ARE ENABLING TECHNOLOGIES

Spatial information and spatial technologies are enabling technologies. They are essential to Australian industry and every day life. They are rapidly evolving. New technologies are constantly becoming available. We are of the view that spatial technologies are our 5th infrastructure after energy, water, transport and telecommunications. In order to maximise the benefits for Australia it is essential that spatial technologies be properly managed in the context of our Nationally Enabling Technology Strategy.

ACIL Tasman (2008)¹ estimated that in 2007 the spatial information industry made a \$6.4 billion to \$12.6 billion contribution to GDP, and had a positive impact on the trade balance of between \$1.26 billion and \$2.3 billion. They also estimate that this contribution could have been up to 50 % greater if Australia were to implement some fundamental improvements to its management and development of these technologies. The most important improvement would be to develop a systematic approach to the provisioning of the vast government stores of spatial information by properly developing a spatial information infrastructure for Australia based on a common approach to licencing, standards and governance, and by taking advantage of the emerging power of Web 2.0.

Allen Consulting (2008)² estimate that the next generation of GPS technologies, to be known as Global Navigation Satellite Systems (GNSS) have the potential to generate cumulatively between \$73 billion and \$134 billion net present value over the next 20 years. They also estimate that additional cumulative benefits of between \$32 billion and \$58 billion (gross) could be generated with a national roll-out of a standardized network of GNSS technologies rather than leaving it to ad hoc market forces. This standardized network would provide uniform national standards and ubiquitous use to anyone anywhere at any time in real time. The network does not exist at present. However as GPS (and in time GNSS) units become increasingly available in most mobile phones and cars, the potential benefit to Australia of this network is becoming increasingly apparent.

SPATIAL INFORMATION AND SPATIAL TECHNOLOGIES

Spatial information is any information that can be geographically referenced. Maps are the classic example of spatial information. Modern spatial information is derived from satellite imaging, global positioning systems, aerial imagery, ground-based surveying and increasingly from the sensor systems that are becoming so common. Software to analyse imagery (remote sensing and image

¹ ACIL Tasman (2008) 'The Value of Spatial Information: the impact of modern spatial information technologies on the Australian economy'; Report by ACIL Tasman (www.crcsi.com.au/pages/publications.aspx).

² Allen Consulting Group (November 2008) 'The Economic Benefits of High Resolution Positioning Services'; Report by the Allen Consulting Group (www.crcsi.com.au/pages/publications.aspx).

analysis software) and to analyse electronic map-based information (Geographic Information Systems) are also part of the spatial technologies. Google Earth and Microsoft's Virtual Earth are examples of how spatial technologies are helping transform the web.

Spatial information underpins a many of Australia's key industries including emergency management (especially bushfires and other natural disasters), property and real estate through the titles offices, mining through the exploration technologies, national defence and coastal surveillance through imaging and positioning, construction, surveying, transport for navigation, banking through the use of precise timing signals from GPS satellites, meteorology from imaging satellites, farming, environmental management, and many more.

It has been estimated that spatial technologies are vital in supporting 80% of government decision making (Tomlinson, 1993).³

QUESTIONS FOR CONSULTATION

1. What are the key issues and challenges that need to be addressed by the National Enabling Technologies Strategy?

We are strongly of the view that the Strategy needs to acknowledge two key enabling technology challenges:

The first is the creation of an Australian Spatial Information Marketplace to permit trading of the huge stores of mostly government held spatial data. The marketplace must be Web2.0 enabled and must resolve critical issues of governance, standards, licencing and technology. The backbone of the marketplace is the Spatial Information Infrastructure, an emerging technology that is recognised world-wide for its critical role in knowledge-working economies.

The second is the creation of a National Positioning Framework for precise positioning. This will be a network of 2400 base stations evenly spread across Australia and utilizing the most advanced satellite signals to permit highly accurate positioning anywhere on continental Australia.

Taken together these two enabling technologies are absolutely crucial for Australia's future wellbeing.

2. How should these issues and challenges be addressed? What is your organisation doing to address those issues and challenges?

Our three organisations are cooperating in preparing a national strategy for the two challenges outlined above. Our strategy will require a good understanding of complementary initiatives, in particular the National Broadband Strategy.

3. What would you like to see as the main outcomes for the National Enabling Technologies Strategy?

Firstly we would like to see it recognising the spatial technologies as critical enabling technologies for Australia's future. We would like to see the Strategy developing a roadmap that develops the relationship between the enabling technologies so that the nation can optimize its return on these investments.

³ Tomlinson (1993), Review of the spatial information needs of the Victorian Government, Published by the Victorian Government

4. How do you think your organisation could work with the Enabling Technologies Policy and Public Awareness Sections and others to address those issues and challenges?

We are very happy to assist you in developing the strategy and its policies. Our submission only touches very briefly on the issues and a much fuller treatment is required to do them justice. We would welcome the opportunity for continued collaboration and involvement.

ABOUT THE PEAK SPATIAL INFORMATION ORGANISATIONS IN AUSTRALIA

ANZLIC – the Spatial Information Council is the peak government body for spatial information in Australia. It has as its members the Australian Federal Government, the New Zealand Government and the all of the States and Territories of Australia. It was established in 1984 through an exchange of letters from first Ministers.

The Spatial Industries Business Association (SIBA) is Australia's peak private sector body for the spatial information industry. It represents over 500 companies. It was established in 2001.

The Cooperative Research Centre for Spatial Information (CRCSI) is the peak body for spatial information research in Australia. It has 70 collaborating partners (9 government agencies, 6 universities and 55 companies). It was established in 2003.