Submission for the Review of the National Innovation System

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1. Overview

Innovation is not just about research and development. It's about inspiration, versatility, ingenuity and creativity. Importantly, it's about having the capacity to dynamically meet market demands, respond to the necessity for change and apply productive improvements.

The spatial information industry is a child of the technological era. By its very nature, it too is about innovation. As much as innovation is fundamental to Australia's social, economic and environmental future, so is spatial information fundamental to innovation.

Spatial information is the lifeblood of the rapidly growing number of Australian businesses. The sector contributes between $6.4 billion and $12.5 billion to GDP[1] each year and it is represented by the Australian Spatial Information Business Association (ASIBA).

This is an industry that crosses all sectoral borders - almost all industries and governments at all levels benefit from spatial information. In other words: whatever you're trying to do, this technology can help you understand it so that you can do it better, faster, safer and more efficiently. Applications include:

- minerals and petroleum resources discovery
- land and infrastructure development
- transport planning and management
- asset, utilities and infrastructure management
- environmental and natural resources management
- agriculture fisheries and forestry production
- pest and disease control
- emergency management
- marketing and retail planning
- decision making and policy formulation … and many more.

ASIBA also believes that 'innovation is an open-ended process and the challenge never ends'. It focuses its work on helping people, organisations and governments understand how important spatial information is to key national economic and social drivers.

A national industry association, ASIBA speaks for the spatial information industry's private sector interests. The membership profile is diverse, from large multinationals to one-man operations. Each member organisation variously acquires, integrates, manages, analyses, maps, distributes and otherwise uses spatial information. They perform research, develop technology, educate people and deliver applications that address the planning, decision-making and operational needs of all manner of individuals and organizations.

By far, the greatest number of ASIBA members sits in the small-medium enterprise (SME) segment of the business sector. This gives ASIBA a clear perspective and authoritative knowledge about SMEs and how they work, what they are concerned about, where their strengths and weaknesses are, how they see the industry's health now and into the future,

[1] Spatially Enabling Australia, ACIL Tasman, October 2007

where they think they are positioned – and what part innovation plays in their business models.

In ASIBA's experience, it is abundantly clear that SMEs in the spatial information industry collectively contain a vast pool of talent and innovative opportunity, just waiting to be tapped.

So, how do we do it? Why is it just 'waiting' to be tapped, rather than being drawn on? The answer is deceptively simple: currently, industry SMEs don't have the resources to respond to or expend on the innovation opportunities they perceive are within their grasp. Their capacity is fully engaged in performing the regular work of their business. The principle complaints ASIBA often hears when SMEs ignore obvious opportunities – including government offers – are: "we don't have time, money or people to do it" , "it's too risky to take on by myself" and "when I've developed something innovative there is no support to commercialise my findings".

Generally, the business and industry groups that collectively represent SMEs experience the same difficulties: fully engaged in "business as usual" activities, they often don't have the resources to dedicate time, personnel or funds to properly perform the additional work involved in pursuing the avenues of opportunity that will not only benefit their members but, ultimately, the nation as well. This Call for Submissions itself is a very good example: without the assistance of volunteers and other unpaid friends of the industry, this submission would not exist and you would not be reading this perspective on the conundrum facing SMEs and Associations.

So, engaging in innovation – or rather, not engaging – and the reasons why becomes a circular argument. ASIBA's interest in this submission is in discussing this argument and offering insights about how the government can break that circle.

2. Executive Summary

Governments can and should take a proactive role in supporting industry, particularly those that are considered as *emerging*. Industries that are *emerging* have special needs that relate to the typical structure, which is generally Small Medium Enterprises.

These industries may also lack recognition within the national statistical categories, which makes it more difficult to identify an emerging sector and compare it to other sectors. This anomaly also contributes to a lack of understanding of a sectors contribution to the economy and its importance to national skills formation and innovation.

The Australian Spatial Information Business Association (ASIBA) believes that the Australian Government should:

Establish satellite Research and Innovation Centres that bring together networks of public research bodies and interested private companies in key growth sectors.

Ensure that program requirements do not act as disincentives to private sector participation: paying particular attention to those aspects that have the potential to adversely

affect SMEs. In particular, programs should seek to adopt rules that encourage SME engagement rather than insisting on injecting cash.
Ensure major government initiatives engage with the private sector: include in major government initiatives (such as water, carbon trading, etc) the **requirement** for those program agencies to ensure they engage with the private sector. This engagement should include partnering with lead science agencies to develop skills and advancement of any potential commercial intellectual property outcomes. Merely stating that agencies should engage with the private sector is not sufficient to guarantee that agencies will do any more than offer up low end work without any significant development potential.

Eliminate unfair government competition with the private sector: secure agreement from all government levels to:

i. cease engaging in commercial activity and
ii. develop policies that support industry through positive programs.

COAG should specify that government bodies use private sector products and services and not engage in developing internal capacities. This should be audited by an independent umpire such as the Productivity Commission, Department of Treasury or the Department of Finance under a specific legislative framework.

Establish a five-year Spatial Information Innovation Development Initiative: to accelerate commercialising spatial information research and development, including global markets.

Guarantee an appropriate level of government product buy-in: where the private sector invests in large-scale product development such as a National Digital Elevation Data Framework. This can take the form of direct shared investment through Public Private Partnerships (PPP) or other appropriate arrangement.

Contribute funds so that industry can represent itself and the Nation at international forums: and ensure that Australian business is aware of new and emerging ideas. The private sector must contribute in-kind by providing experts to attend such forums, without remuneration. Such attendees must provide government with written reports.

Establish a government/industry partnership programme with ASIBA: to maximise opportunities for the spatial information industry to bid for spatial information projects.

3. Australia's Innovation Challenge

'Australia will be a global leader in the innovative provision and use of spatial information'.

The 2001 Spatial Information Action Agenda (SIAA) and its report, *Positioning for Growth*, recognised that achieving this vision will require a strong spatial information industry in which business, government, academic and research sectors collaborate effectively and actively contribute to national policy development.

Australia has already produced world-leading and export-focussed companies. However, the spatial information (SI) sector is dominated by SMEs and, if it is to grow to one that takes its place on the world stage, then it must develop scale and scope within its national home base. This means removing the impediments to SME growth. *No national SI industry strategy, with consistent national policies and governing frameworks, as yet exists*. This lack constitutes one of the main constraints on SME growth and innovation in the industry.

Australia also lacks a coherent national focus and process for developing and executing whole-of-government solutions to inefficiencies. This lack has hindered Australia's progress towards becoming a modern spatially-enabled economy. International competitors such as Canada and the European Union have implemented models that harness the resources of both industry and government – both financial and in-kind – and actively engage community responses as well.

Australia needs to do the same. As a matter of priority it must address the critical shortage of spatial information skills as well as develop ways to commercialise spatial information innovation.

4. Growing innovation

Australian businesses have enjoyed significant growth in innovation in the past few years. However, there is a strong link between the size of a business and innovation: larger businesses are more likely to invest in innovation than smaller businesses.

Larger organisations in the spatial information industry are often at the forefront of innovation. These organisations, with their greater human and financial resources and, often, with specialist in-house professionals, have better capacity to engage in research and development and to implement innovation.

But SMEs are also important in this industry. These enterprises are potentially the breeding ground for larger businesses in the future, in both local and global markets. While the level of innovation among the small to medium enterprises is improving, nevertheless it is more difficult for smaller businesses to innovate. Contrary to the case for larger organisations, SMEs are disadvantaged because they don't have the human or financial resources to effectively respond to the growing needs and demands of the industry itself, including research, development and innovation.

It's also easier for large businesses, with their varied commercial experience and established market links, to gain the full benefits of commercial innovation. Not so for smaller businesses, that may not have the knowledge or skills to execute the necessary steps.

Government can play an important role here. By providing funding for R&D and commercialisation activities, it takes the risk out of undertaking searches for innovation in our work. By out-sourcing activities that can be provided by the private sector, this provides SME's with the cash and profits to re-invest in innovation to apply in Australia, as well as export markets.

There are both opportunities and challenges for many of the smaller to medium enterprises in the spatial information industry. For example, firms looking to develop products may focus their initial business case on local markets. However, the bigger opportunities are global and they need to be aware of and understand those opportunities. Innovation is best driven by market signals; companies looking to sell into global markets must be able to read those market signals and develop products that will be valued in those markets.

The way spatial information is used in Australia is also changing. Even in the short-term future, spatial information is likely to move from project-based or organisation resource applications to mainstream enterprise systems; and the market will move beyond service providers and agencies into mainstream industrial and consumer markets.

The priorities for research and development will need to become more market focused. While the Australian market is very important, potentially much larger markets will exist beyond Australia's shores. The pathway from research and development and innovation through to commercialisation will need to focus on global as well as domestic markets.

5. Pathways

ASIBA believes the Australian government should establish a five-year Spatial Information Innovation Development Initiative (using innovation grants administered by AusIndustry) to accelerate commercialising spatial information research and development, taking into account the emerging opportunities in global markets.

Further, governments should establish a government/industry partnership programme with ASIBA to maximise opportunities for businesses in the spatial information industry to bid for projects.

Industry has, after all, successfully partnered with governments where there have been opportunities to do so. The Spatial Interoperability Demonstrator Project (SIDP)[2] was a good example of a productive partnership in action. ASIBA and the Open Geospatial Consortium Australia (OGC-A) jointly hosted this AusIndustry-funded initiative, in which a number of Australian government agencies made major contributions, including the Bureau of Meteorology, Emergency Management Australia, GA, as well as CSIRO Land and Water. The project won the Research and Innovation Award at the 2005 Asia-Pacific Spatial Excellence Awards. The SIDP has since been cited in countless references, nation and world-

[2] Spatial Interoperability Demonstration Project, AusIndustry Innovation Access Grant, ASIBA/OGC-A, 2005

wide, not only for what it demonstrated about interoperability and innovation but for what it proved was possible about government-industry collaboration.

6. Inhibitors

Ironically, the SIDP also demonstrated some key disablers to successful government-industry collaboration. Key amongst them was the departmental focus on process rather than outcome, including an unnecessary triple-audit of the financial management procedures.

The excessive focus on process was intrusive, frustrating and costly but the greater loss to the nation was in the lack of follow-up funding to implement the outcomes. A consequential departmental decision to change the funding stipulations meant that organisations – including associations and business firms – must contribute to costs *in cash* rather than *in-kind*.

With such a decision, Australia cut itself off from a wealthy flow of ideas.

Not-for-profit organisations such as ASIBA represent and are supported by their constituent bodies. They do not, by definition, make money for the sake of it. Organisations like ASIBA, however, do seek to provide a platform for community-based outcomes. On the other hand, businesses, while they must – also by definition – make money to *stay* in business, generally find it ludicrous that any government, which already receives its apportioned sum in assorted taxes, should ask for yet more money from their 'bottom line' to fund an ideas pool from which businesses other than their own will benefit. SMEs in particular find this a specific disincentive and simply cannot justify cash contributions. For SMEs, there is very little time, money or human resources to spare for unfunded research or innovative development or even to prepare submissions for government funded industry programs; and, while large companies have the capacity to secure funding, SMEs can rarely secure private capital for growth and investment.

Equally, the administrative task associated with funding grants is sufficiently onerous to give businesses pause for thought. If an SME does win funding for an innovation project, the amount is often insufficient to adequately resource the administration according to the departmental guidelines for accounting, auditing, reporting and so on. Government presumes in-house capacity or investment, which only actually applies in the case of larger organisations; and timelines for completing the projects are based on government and administrative strategies, not business or innovation timelines.

This *in cash* requirement had an even greater negative impact on the spatial information industry when it sought to participate in the National Water Initiative. Not only was the industry submission refused on the basis of '*not representing good value*' (because it did not offer in-cash contributions) the winning bids were said to have contributed cash. In fact, they were government agencies and local government bodies, who simply shifted funds between programs rather than fund *new* monies: contrary to the expectations imposed on SMEs, government agencies use public funds to support in-house capability - without risk.

Nevertheless, ASIBA believes that the innovation challenges for the spatial information industry private sector lie squarely in the lap of governments, even though government bodies are not businesses and therefore have difficulty fully understanding the nature of business and the business-specific challenges associated with efficiency and productivity.

One of the main challenges facing the industry's private sector is that government agencies still use public funds to purchase new technology to compete directly with the private sector and so interfere with normal market forces. This increases investment risk to unacceptable levels and mitigates any incentive the private sector may have to invest in new technology or new applications. Further, the involvement of government agencies (particularly state agencies) in providing value-added services may well extinguish future valuable opportunities for development in the spatial information industry.[3]

The private sector of any industry requires that an investment in new technology or systems will provide a return on investment (ROI). If a market is skewed by government competition with the private sector then investment in new technology is an unacceptable risk. Not only is there less work for the private sector to ensure an adequate ROI but if government investment in the same technology is effected after that of the private sector then there is a large risk of significant underutilization of technology and a reduction in profitability – in other words, a negative impact on GDP.

The SI&T sector invests in knowledge and capability *stock* but this investment is undermined when the government intrudes into the market and interferes with the *flow* of innovation capital. This intrusion has a net negative impact on GDP and on the potential for such to be considered an investment in the future.

The government can better invest in the value of stocks and flows through creating policies that mandate government outsourcing to companies demonstrating their investment in innovation. Further, government tender processes and program requirements should *help* the private sector to invest in innovation by, for example, giving preference to those companies that demonstrate investment in knowledge production, knowledge application and knowledge diffusion.

If the private sector is to contribute effectively to 'societal and environmental aspirations and challenges' such as those emerging out of the water and climate change debates then it must be included in programs that will benefit from the creative input of a wider knowledge base. The value of this proposition is in the potential it provides for knowledge acquisition that can be exported to other economies.

Currently, government engagement with the spatial information industry's private sector is at best minimal and, more commonly, obstructive.

7. Core functions

While it is important to identify the core functions of an innovation system it is equally important to acknowledge that an effective innovation system is an outcome of the widest possible input from society as a whole – including the private sector.

[3] Spatially Enabling Australia, economic study by ACIL Tasman, October 2007

At present many government agencies seem disinclined to mobilise the resources of the private sector to meet their key initiatives. For example, the SI&T sector is currently seeking investment in a National Digital Elevation Framework that will provide a valuable foundation for water management, national security, infrastructure development and climate change policy, to name a few. However, government agencies are focussing on internal needs and controls to the detriment of private sector input and investment.

Building and maintaining infrastructures is an important area of innovation, particularly within the spatial domain. There is currently no National Spatial Data Infrastructure, nor any mechanism for locating data sets, distributing them, or a single national licensing regime to use them. This is an area of policy failure that inhibits innovation.

Many state agencies maintain monopoly leveraging and pricing mechanisms. This contributes to or exacerbates many of the weaknesses this Call for Submissions has identified, such as:

- inadequate infrastructure provision for transport, communication, research and development facilities
- inadequate institutional development and evolution, both formal and informal
- capability and learning problems
- structural adjustment issues and transitional problems in economic change, often arising from technology ‘lock in’
- networking and collaboration problems
- heterogeneity versus specialisation
- imbalances within and across the innovation system.

8. Government role

So far, the industry has not found a comfortable representative fit in a political portfolio. Geoscience Australia, with its narrow line agency responsibilities in the Resources Energy and Tourism Portfolio, is a poor fit to represent the industry’s needs but currently it is the only one recognised. This inadequacy is hindering the industry’s progress as a whole.

SI&T is ubiquitous. It affects all areas of national policy, so logically the industry requires cross-portfolio representation; and it is an important emerging sector that the government must ensure can usefully contribute to and gain from research and development and innovation.

The SI&T sector would benefit from policy that supports the development of exportable skills in key international growth sectors such as water, climate change, national security, health (biosecurity) and so on. To ensure this the Australian government must develop policies that support industry growth through business development strategies that empower SMEs to reach critical mass. There are a number of key factors to consider:

Profitability: government agencies that persist in competing with private sector interests reduce venture profitability
Technology: government agencies are known to duplicate technology extant in the private sector, thereby diminishing the actual and perceived value of investing in innovation

Opportunity: early participation in potential new markets – such as water, biosecurity, national defence, climate change – leads to skills development, knowledge and innovation
Investment: agreeing to *in-kind* investment is crucial if SMEs are to participate in Government funded development industry programs
Cost: open and low-cost access to government held spatial data is essential; so is funding to ensure data quality
Skills: opportunities to develop skills, capacities and knowledge are vital to an emerging market that could prove readily exportable.

The USA Bureau of Labor Statistics has stated that the industry is *one of the top ten occupational groups projected to have the fastest growth in employment over the next decade*. In Australia, the government has not formulated any policy to stimulate growth in the spatial information industry other than the 2001 Action Agenda.

The industry's private sector made very positive contributions to water policy, which the then Deputy Prime Minister acknowledged: "*the Australian government has recognised for some time, how important the spatial information industry is to the nation...the spatial information industry has contributed to one of the most important policy initiatives of the past century: the National Water Initiative, which COAG recently agreed*."[4]

On the national security front, the former Head of Defence Force, General Peter Cosgrove said, "a*s Chief of the Defence Force I see geospatial information, and the organisations and companies that provide it, as part of a web of national capacity and capabilities that support the effective defence of Australia and Australian interests.*"[5]

Yet, despite these affirmations and others like them, the public sector has largely disengaged itself from involving the SI industry's private sector in flagship initiatives and national imperatives. This has reduced opportunities for the industry to develop the requisite skills and knowledge bases: given the skills shortage, many of ASIBA's member firms say they must commit all their available manpower resources to real and current projects, with none to spare for other more nebulous *innovation*.

Excluding the private sector in this way reduces growth in GDP[6] and increases reliance on mining and agriculture at a time when Australia must seek to broaden its economic and skills base. It denies the private sector the opportunity to engage in innovation, to upgrade technology, develop new skills and open up new export markets. Excluding the private sector from large projects constrains their capacity to secure investment funds or borrowings to innovate and grow.

9. Models

The current innovation model assumes that all industry sectors are willing and able to carry forward an innovation agenda. It assumes that each and every industry sector can and does have mechanisms in place to achieve all that it can without government interference.

[4] The Hon John Anderson, The Deputy Prime Minister and Minister for Transport and Regional Services, 18 February 2004
[5] General Peter Cosgrove, Chief of the Defence Force, in a speech to ASIBA, 10 October 2002
[6] ACIL Tasman study for ASIBA, Spatially Enabling Australia, 2007

This conceptual model is best illustrated by AusIndustry's Action Agenda Program. Although the concept has merit in the way it recognises industry failure or acknowledges emerging sectors, it is based on the premise that all industries are alike. In particular, the model does not differentiate between **emerging** and **established** industry sectors.

While there is merit in a process that seeks to conduct a SWOT analysis of an industry sector, the model lacks a basis for understanding the immediate and on-going needs of an emerging sector. There was no attempt to link the key elements necessary for growth such as: research and development, education and skills development, a national policy framework, and support for the development of a business structure to push forward the industry into the main stream of the economy.

An emerging sector will often lack a conduit to a structured government policy framework. Industry and professional representation is often embryonic and hence under resourced. This generally results in poor response to government policy initiatives and wider industry recognition of the sector.

10.Drivers

The spatial information industry supported forming a CRC for Spatial Information (CRC-SI). This CRC is one of the few (if not the only) that has managed to develop a workable system for engaging SMEs in collaborative research and development.

This is not to say that this model is the only contribution that can or should be made to bring together private sector and government funded R&D skills. Clearly the cross-industry nature of spatial information and technologies suggests that there is also a need to have a central platform to bridge potential vertical streams and ensure development of products and services and to encourage growth of what is essentially an SME dominated industry.

Innovation is not just R&D. Innovation is also driven by policy that encourages and supports industry development through restructuring, training, and growth. Large well resourced companies are more able to develop capacity to export. Emerging industries such as SI&T struggle to achieve recognition, they struggle to secure financial investment, and they struggle to develop internally if the boundaries of the industry are not defined.

Government needs to ensure that it recognises and promotes cohesion within the sector so that investment in R&D and wider innovation is better targeted. It is not productive for government to fund the development of demand specific innovation because this level of specificity is driven by temporary product development rather than long-term strategic investment in the delivery of high quality platform innovation.

11.SWOT Analysis

One of the main threats to the industry's private sector growth, innovation and R&D investment is the government's ongoing competition with the private sector and the propensity for government research agencies to retain work in-house when the same capacity

already exists in the private sector. It is difficult to see how the private sector can work productively with agencies that openly compete with or exclude companies from work or pass only minimal low-end work to the private sector.
It's important for governments to engage with the private sector to build new markets both in Australia and ultimately overseas; and it is not surprising that overseas markets won't engage Australian companies if our own government does not see fit to engage its own firms.

Successfully coordinating innovation relies on sound policy settings. Policies must consider the impact an industry sector has on the economy, both immediate and long-term, so it is incumbent on governments to recognise and respond to the needs of emerging industries. These industry sectors are likely to be the future drivers for employment, they are often SME dominated, they lack a defined policy domain and the private sector business support network is often fragmented or immature. All of these factors diminish the industry's capacity to influence government and achieve the momentum necessary to support innovation.

The SI&T sector is facing increasing challenges from China and India – both of whom represent potential competitors and potential market opportunities. Other more established competitors are reaching into our markets and buying up our intellectual property. Therefore, solutions to innovation policy must include solutions to the challenges of global competition. *The increased sense of urgency around finding solutions to global and national challenges like climate change, future energy sources, water supply and a healthy population must force governments to rethink established policy frameworks that inhibit innovation; particularly those that undermine private sector innovation and participation in solutions to global challenges.*

12. Associations as a Resource

One potential and practical solution – and one ASIBA favours – is for the government to engage business associations with more vigour and regularity. Associations can provide business with the supportive and nurturing environment that community groups have for centuries given the disadvantaged. Program funding could be more cost-effectively disbursed through non-profit business associations directly to their constituents rather than via the complex and costly structure that currently exists.

Unfortunately, our experience with the agency delivery model is that the outcomes appear to be less important than the funding administration. It would be far more preferable for the private sector to establish independent, business-focused review committees with specific knowledge about key areas of technology, funding strategies and export potential for each competing application. One organisation would then provide the collective practical service to manage and implement industry-specific projects and be responsible for reporting to government, business, media and the community the results of this investment, thus freeing business to get on with the real business of innovation.

Associations can pull together the resources, direct the industry towards current and potential opportunities, draw out ideas and stimulate interest and input. They can establish a 'one-stop shop' for the entire sequence of project management: from reviewing applications for innovation funding, funding projects, reviewing outcomes, providing assistance towards the next steps, export assistance and linkages to appropriate government programs, to linking to investment funds. Associations could provide collective administrative, financial, reporting and other common business services including marketing expertise, which would reduce the resource burden and overall cost to each project. This method also offers opportunity gains by harnessing the collective benefits, reducing the cost of delivery and ensuring best price and greatest efficacy – with this method it's easier to see other options and opportunities and to explore them.

Government would then only need to review the performance of the Association in delivering the full range of services in support of an industry sector. In the case of SI&T, there is a strong case for this industry to be a link to vertical market sectors that wish to utilize this technology for new product development, such as in communications, transport and logistics to name a few.

The current agency-based innovation delivery structure is costly and cumbersome with little or no commitment to the drivers and outcomes for success. In terms of real costs, more funds are expended on checks and balances than are committed to delivering, recognising and celebrating the innovation outcomes.

Put simply, funding industry associations to manage the administration of industry-specific projects directed at SMEs will obviate many of the hindrances and facilitate most of the improvements described in this submission.

13. Recommendations

2. **Establish satellite Research and Innovation Centres**: that bring together networks of public research bodies and interested private companies in key growth sectors. The management of these centres would fall on sector specific associations that would bring together committed stakeholders and promote government innovation and research programs within the sector(s). This would create efficiencies and reduce government administration, which is currently under review.

3. **Ensure that program requirements do not act as disincentives to private sector participation**: paying particular attention to those aspects that have the potential to adversely affect SMEs. In particular, programs should seek to adopt rules that encourage SME engagement rather than insisting on injecting cash.

4. **Ensure major government initiatives engage with the private sector**: include in major government initiatives (such as water, carbon trading, etc) the **requirement** for those program agencies to ensure they engage with the private sector. This engagement should include partnering with lead science agencies to develop skills and advancement of any potential commercial intellectual property outcomes. Merely stating that agencies should engage with the private sector is not sufficient to guarantee that agencies will do any more than offer up low end work without any significant development potential.

5. **Eliminate unfair government competition with the private** sector: secure agreement from all government levels to:
    i) cease engaging in commercial activity and
    ii) develop policies that support industry through positive programs.

    COAG should specify that government bodies use private sector products and services and not engage in developing internal capacities. This should be audited by an independent umpire such as the Productivity Commission, Department of Treasury or the Department of Finance under a specific legislative framework.

6. **Establish a five-year Spatial Information Innovation Development Initiative**: to accelerate commercialising spatial information research and development, including global markets.

7. **Guarantee an appropriate level of government product buy-in**: where the private sector invests in large-scale product development such as a National Digital Elevation Data Framework. This can take the form of direct shared investment through Public Private Partnerships (PPP) or other appropriate arrangement.

8. **Contribute funds so that industry can represent itself and the Nation at international forums**: and ensure that Australian business is aware of new and emerging ideas. The private sector must contribute in-kind by providing experts to attend such forums, without remuneration. Such attendees must provide government with written reports.

9. **Establish a government/industry partnership programme with ASIBA**: to maximise opportunities for the spatial information industry to bid for spatial information projects.

14. ASIBA Policy Position Statement

Policy context	Principle
Skills	A spatially enabled knowledge economy and society is built both on professional skills and technical occupations, as well as a widespread awareness of the potential benefits to society of spatial information and its applications.
Innovation	The commercialisation of research and development in spatial information should continue to be supported through ongoing support for the CRC SI and the innovation programs of AusIndustry. An industry/government partnership programme along the lines of the Canadian GeoConnections programme would augment these efforts.
Fundamental data	Gaps in Australia's spatial information base should be funded where it is a matter of national priority and international competitiveness. These should be identified on a whole-of-government basis by COAG. In principle, governments should directly fund the costs of collecting or capturing fundamental spatial information of national significance, as well as the costs of maintaining the currency and accuracy of the spatial information so that it is fit for purpose by end users.
Spatial data infrastructure	High priority should be given to the development of a fully operational ASDI to ensure that Australian society can realise the benefits from spatial information management systems and Australian industry can maintain and increase its international competitiveness. • a national data framework, integrated from federal, state and local sources • common data policies, agreed to by federal, state and local governments and agencies

Policy context	Principle
	• technical standards, governing web services and interoperable information • enabling architecture, based on open standards and specifications.
Access to data	All suppliers and distributors of spatial information should adhere to the ANZLIC guiding principles for access to spatial information as being in the best interests of users of spatial information. In developing the ASDI, work must be done to ensure simple and effective access to spatial information and address the problems in ensuring data quality.
Pricing	The market for value-added services should in general be the exclusive domain of the private sector, unless government business enterprises compete on a fair and equitable basis in line with the competitive neutrality principles established by COAG.
Statistics	Unless the spatial information industry’s contribution to the national economy is measured regularly, policy makers will be unable to assess progress in changes to Australia’s international competitiveness and GDP from the national spatial information reform agenda.
Policy leadership	The Online and Communications Council should be responsible for coordinating action between governments to progress the national reform agenda. At the Commonwealth level, responsibility for implementing the recommendations should rest within the portfolio of a Minister represented on this Council. A central agency should be given the responsibility for administering the programme and implementing policy. This agency should be placed within the portfolio responsibilities of this Minister. Partnership between ASIBA and Government in implementing the reform agenda will be fundamental to success as established in the Action Agenda..

15. In the Future

Future innovative developments in spatial information will undoubtedly affect the cost of data, how we use and understand it and, importantly, who can access it and how easily.

These developments could face several threats, including inappropriate data pricing policies, ignorance about potential applications, as well data property rights and privacy issues.

These threats could easily extinguish valuable options for future economic prosperity, growth and industry development. At worst, Australia's long-term competitive advantage will be threatened if it falls behind the rest of the world.

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