2026 Spatial Industry Transformation and Growth Agenda

Spatial Sector: Insights

The spatial technology and services sector is a core element of the Australian economy. This report examines the barriers to further growth in the sector and expands on ideas for transformational changes.

2026 AGENDA

30 August 2016

For Release

Executive Summary

Australia has a well-developed, strong reputation as an early adopter of spatial technologies, and spatial services underpin many elements of the Australian economy. However, a recent survey of leaders in the spatial sector found that 95% believe spatial services are either not achieving growth potential, or that the growth is being captured by other industry sectors.

In order to identify the inhibitors to growth, as well as the required changes to kick start growth in the sector, interviews were undertaken with 40 leaders from across the spatial sector. The key barriers to growth identified in these interviews were:

Barriers to Growth

- Clarity of messaging
- Insular communication
- Behind the technology development cycle
- Role of government

To overcome these barriers, the following changes were seen as highest priority:

Areas for Transformation

1. Culture and Communications
    - Engage and focus communication outside the spatial sector
    - Improve communication across industry silos
    - Create a culture of innovation
2. Roles and Responsibilities
    - Refine the roles, goals and governance of spatial organisations
    - Collaborate
    - Prioritise and provide underpinning infrastructure
    - Be entrepreneurial *(private sector)*
    - Focus on end user needs *(private sector)*
    - Facilitate relationships *(government)*
    - Evolve skills and education models *(research/development)*
    - Advocate local spatial capability on a global stage *(industry bodies)*
3. Technology
    - Establish national projects
    - Underpin innovation

Next Steps

Outcomes from this paper will be used to create an Ideas Document as a discussion catalyst for a national series of leadership forums. This ideas document will contain a guiding Vision together with a Statement of Needs. These will be validated and expanded through the leadership forums, and expanded in to the 2026 Agenda, Road Map and Action Plan.

Overarching Problem

This document summarises interviews with thought leaders from across Australia.

The objective is to understand the barriers to growth and opportunities to undertake transformational change over the next 10 years.

The spatial sector in Australia is not achieving its full growth potential.

A Price Waterhouse Coopers study[1] estimates there will be 30% pa growth in geoservices globally, a level of change which is not currently mirrored in the Australian spatial sector. While individual company growth and development initiatives are taking place, national coordination is paramount to ensure the opportunity for the spatial industry is not lost and the benefits are maximised.

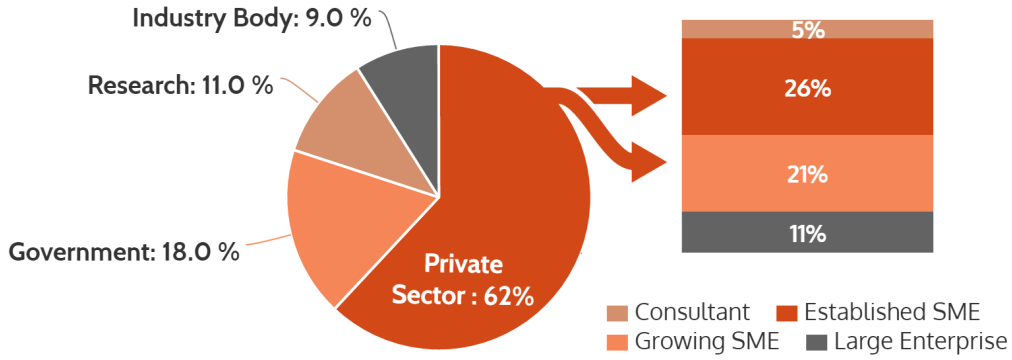
In our survey of spatial leaders in Australia, 95% believe spatial services are either not achieving growth potential, or that the growth is being captured by other industry sectors. This document starts the process of uncovering the drivers behind this overarching problem, and opens the conversation on approaches to bridging the gap over the next 10 years.

Consultation Process

One-on-one interviews undertaken by the 2026 Agenda team with key Australian stakeholders in the spatial sector, highlight and examine the barriers that create the current situation and start to explore potential changes. The outcomes of these interviews have been summarised into keywords, and structured around themes.

Interviews with 40 thought leaders from across the spatial sector have been completed. A breakdown by organisation type is shown in Graph 1, including a further breakdown of the private sector.

GRAPH 1. CONSULTATION BY ORGANISATION TYPE



The information presented in this report corresponds to the findings of the first stage of the consultation.

[1] "Industry sectors Analysis and forecasting", prepared by PWC for Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, July 2013

The 2026 Agenda consultation will be undertaken in the following four stages:

1. In-sector Consultation: interview key leaders across the Spatial sector (complete)
2. Outside Sectors Consultation: engage heavily with external industries (current)
3. Leadership Forums: engage with the national spatial sector through co-design workshops to define initiatives, an action plan and a roadmap
4. National Consultation: parallel to the Leadership workshop, an on-line consultation will take place to validate the results

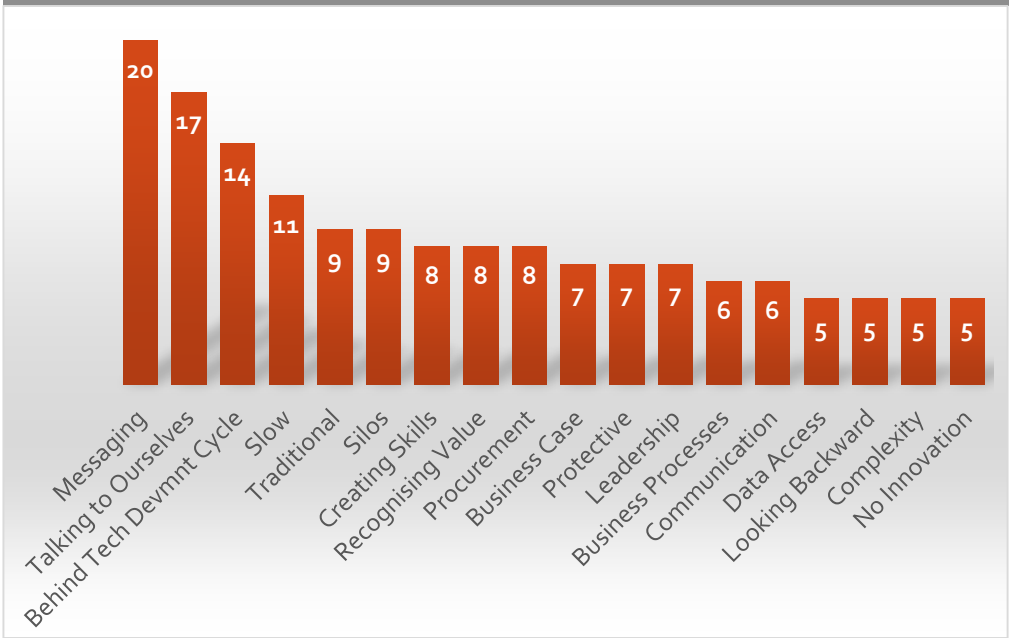
The following two sections structure the feedback from the in-sector consultation around two main areas: *Impediments to growth* and *Transformational changes*.

Impediments to Growth

While this section focuses on barriers to growth, many of those interviewed were quick to highlight how well the sector has progressed over the last 15 years.

The following graph displays the frequency of specific barriers mentioned as impediments to growth for the spatial sector. These impediments were mentioned organically in conversation, rather than selected from a list of issues.

GRAPH 2 IMPEDIMENTS TO GROWTH



There were close to 100 individual topics mentioned by interviewees. This graphic represents those mentioned by five or more people.

Four key themes emerged through a clustering of issues highlighted in Graph 2. Key impediments to growth are:

1. Clarity of messaging
2. Insular Communication
3. Behind the technology development cycle
4. Role of government

Clarity of Messaging

The roots of the spatial industry are born in science and the core problems solved are complex. Therefore, the spatial sector mindset when discussing spatial technology is often scientific and multifaceted. As a result, the message is not understood outside the 'group'. A love of complexity, and for solving deep issues, does not help to create a compelling external message.

Without a clear message the industry cannot have a clear business case, value proposition, or significant new engagement.

This is not a new issue, but one the sector has been grappling with for many years. A deeper investigation into the underlying causes for this gap in communication may help to find a path forward.

Insular Communications

'We talk to ourselves too much'. This was reported by more than half of the interviewees. Too often the focus is on recounting successes with complex technology, rather than focusing on communicating outcomes and value messages to other key sectors.

'We promote our success in silos'. Feedback from respondents said that while we promote our successes internally, we do not work together as well as we should, particularly between private sector companies, and across internal sector silos that still exist between private, government and research agencies.

Behind the Technology Development Cycle

All industries are being challenged by the pace of technology change , and are trying to hold on to their patch.

The spatial industry is struggling to adapt to the rapid pace of change in data capture, storage, analysis and processing, despite the phenomenal growth and uptake of spatial technology. In addition, while once global leaders, the Australian sector is no longer sure of its role, with innovation often coming from global players rather than local companies.

While there are certainly exceptions, without a truly entrepreneurial and innovative culture in Australia, the sector is likely to continue the trend of being users rather than leaders. This is also reflected in feedback regarding traditional business models and processes; several participants identified that businesses use technology to improve current business practices, rather than examining how business practices may evolve to make best use of technology changes.

The Role of Government

The Australian Government has played a significant role in the creation and evolution of the spatial technology sector. However, this role has changed over the past decade, with many seeing both state and federal government agencies shifting to a procurement approach, focused on risk and cost rather than potential and value,

Innovative small businesses are often not given an opportunity in government contracts when compared against low risk, large international businesses.

and the safety of large global organisations rather than investment in growing local talent.

The government still has a large role to play in facilitating the growth of this sector through: active changes in procurement process, facilitating relationships between organisations and silos, promoting spatial services on a global scale, reducing duplication of data, the simplification of data access through open licensing, and the provision of critical e-Infrastructure to help business and research change and grow.

Areas for Transformation

The following areas for transformation were identified by interviewees as ways in which the sector may start to overcome the barriers they have identified. The interviewees were asked to describe transformational changes, however the vast majority of feedback focused around areas to change, rather than specific changes to make. As a result, the information presented below covers clustered categories for change, rather than specific transformational changes.

To overcome the barriers identified above, long term (10 year) changes need to be implemented to allow the industry growth potential to be achieved. Below is a summary of key themes emerging from the interviews so far, presented through both graph and word clouds, with larger words representing areas mentioned by more people.

The accounting profession may provide a good model for spatial professionals.

The three key areas for transformation, in priority order, are:

1. Culture and communication
2. Roles and responsibilities
3. Technology

Culture and Communication

Many people are able to undertake basic financial management in MYOB or Excel, but know when to call in a professional for help and advice. They also understand the value added by these professionals.

Cultural and communication changes were the most frequently mentioned changes required, as are required to fundamentally overcome the issues of messaging and external engagement. These changes will focus on getting back to basics, understanding the potential customer base, and defining what value the industry is trying to create.

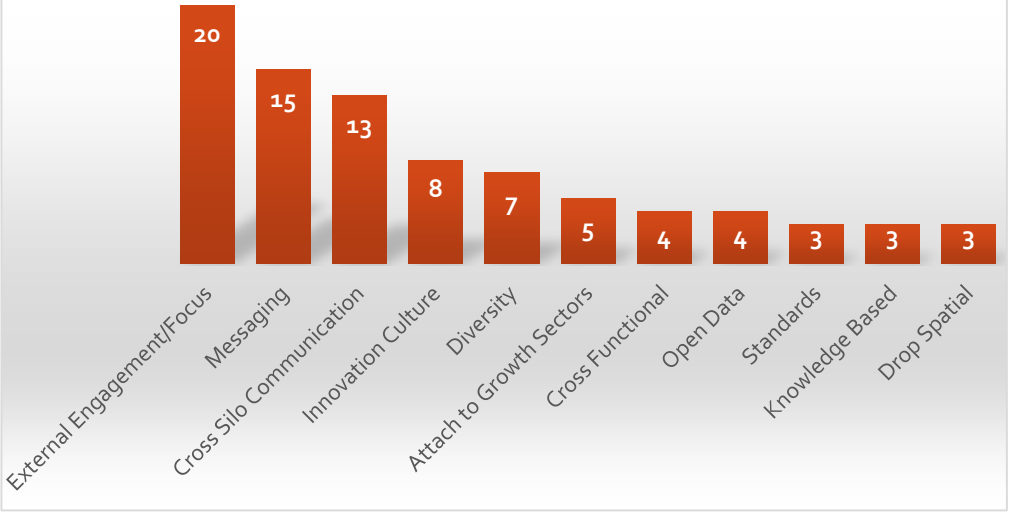
An example of a tranformational change to address culture and communication would be the extablishment of an innovation hub for both new and existing businesses.

Changes in communication revolve around whom we talk to, what we say and how we say it.

Communicating externally to other sectors was seen as the most important change, followed by increased communication and long term collaborative relationships across silos within the sector. Organisations such as the CRC for Spatial Information have made progress to improve cross-silo communication over the last 10 years, however engagement is still mostly project based, rather than long term relationships focused on developing capability and fostering innovation and new ideas. True, long term collaboration is required across government, private industry and research sectors.

The Geovation Hub in the UK demonstrates the effectiveness of such a hub.

GRAPH 3 CHANGES TO CULTURE AND COMMUNICATION



Communication messages need to be end user focused, forward thinking and clear in economic, social or environmental benefits, to engage with industries beyond spatial. Branding the spatial industry may allow for a fresh clean focus.

In addition, diversity within the industry is seen as important to foster new ideas. One suggestion was to profile common work styles, personality traits and other such characteristics to examine potential gaps which can be targeted through education and recruitment campaigns.

Finally, a large shift is required in the approach to innovation. As a risk averse culture, Australia has a broad cross-sector issue in fostering true innovation. There is an opportunity for the spatial sector to lead this change over time, driven through deep engagement with new sectors, a change in focus and messages from key

collaborative bodies, and emphasis on long term growth rather than short term projects.

Roles and Responsibilities

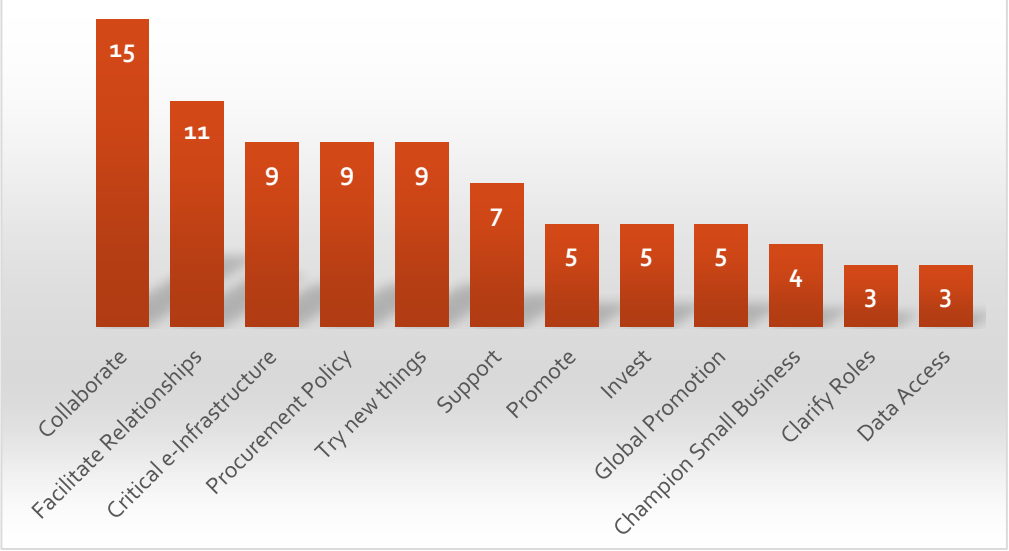
Government

The Australian Government could reform procurement processes to leverage local talent and facilitate creativity in the private sector.

Government is seen as a key collaborator and facilitator in enabling innovation and change to occur across the private and research sectors. All levels of government can help with commercialisation and the translation from technology to the business pitch. This may be achieved through the facilitation of industry clusters, growth centres, policy incentives and promotion of Australian services at a global level.

Government has a key role as an enabler, which it can achieve through the development of core, underpinning information infrastructure as a platform from which ideas can develop. This can be augmented with an increase in open data policy, which, while effective at a national level, needs significant work at the local and quasi government agency level.

GRAPH 4 THE ROLE OF GOVERNMENT



Government procurement policies can be perceived to be biased towards big business, particularly global businesses, as a lower risk option for significant projects. This is seen by some to inhibit innovation and growth of new ideas. Small to Medium Enterprise companies (SMEs) with big ideas are often moving overseas to realise growth, losing significant opportunities to develop local skills and a global export market for local innovative ideas.

Government also needs to clarify the role each agency plays in collaboration, communication, international promotion, and funding.

There is a large opportunity for Australian companies to compete on a global stage.

To expand our markets and keep up with the pace of technology changes, business models will need to evolve, supported by traning and education in new models of operation.

Private Industry

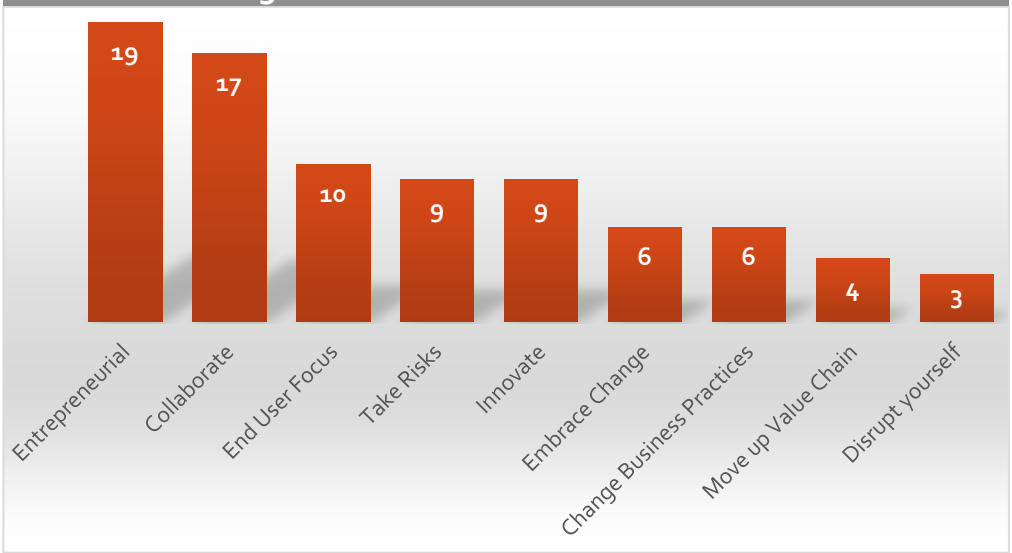
The private sector needs to be the source of growth for the spatial industry. To achieve this, businesses need to focus on investing in new growth areas, new ideas, and fostering an overall culture of entrepreneurship and innovation. This will be challenging and will most likely require many businesses to assess overall business strategy. It may require investment in further education, engagement with new industry sectors, increased access to Venture Capital, and an overall focus on end user/customer outcomes rather than technology.

Industry will need to collaborate, not just with government and research, but with each other. One of the keys to innovation will be to identify, share and store knowledge. The degree of collaboration that occurs in Europe can be replicated in Australia. Instead, duplication and competition is often high, particularly when examined against the size and diversity of the Australian market.

Collaboration with completely new industry sectors through the utilisation of cross-functional teams is required. Innovation often occurs by bringing different ideas, problems and approaches to solutions together in a business, rather than clumping similar skill sets and personality types together.

Finally, companies need to be encouraged to think globally about the potential reach of ideas, technology and practices. This will require work with research and government agencies to identify and facilitate the paths for international engagement, promotion and growth.

GRAPH 5 THE ROLE OF THE PRIVATE SECTOR



Research outcomes are critical to the evolution of the sector, and outcomes need to be effectively communicated to ensure greatest uptake by industry.

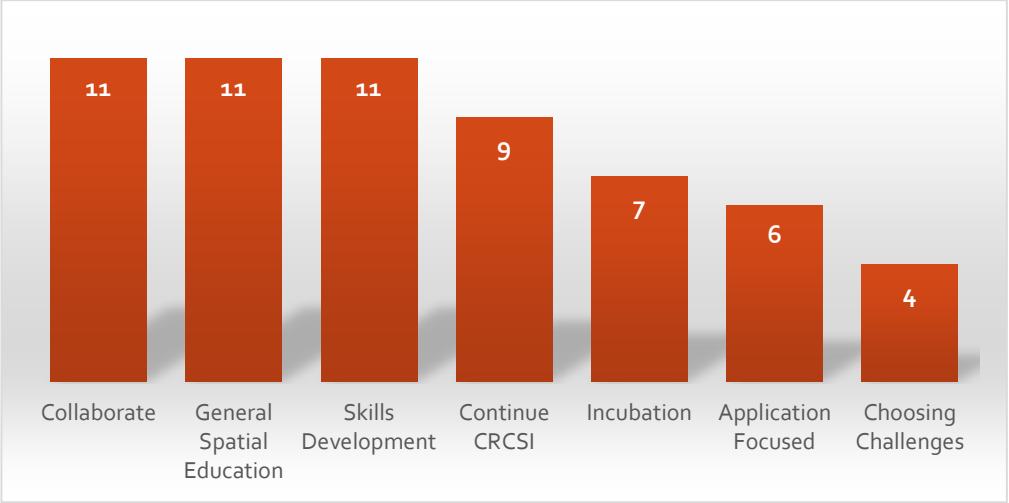
Research and Development

Research and development (R&D) covers universities, research centres and the CRC for Spatial Information. Overall feedback is positive, but the research sector is still seen to be too focused on publications rather than end user engagement and industry partnerships. Core research will always be important, particularly in the fields of Geodesy, Positioning, Remote Sensing, Spatial Data Infrastructure and Analytics. Application focused research is often implemented over long timelines which are not useful to the private sector, where the identified need is focused between 3 and 6 months rather than 3 years. There is an opportunity to engage in

shorter, more focused research projects to meet the immediate needs of the private sector.

R&D groups can also provide significant benefits for the private sector and government agencies by enabling ideas to be rapidly prototyped and validated, and to help incubate new ideas and businesses.

GRAPH 6 THE ROLE OF RESEARCH AND INNOVATION



There is strong opportunity for spatial educators to provide targeted cross-sector education programs within universities, closely linked to relevant industry and government organisations. These should not just be GIS and spatial data basics across sectors, but targeted spatial analytics education across key Information and Communication Technology (ICT) sectors. This will help the transition of spatial skills and thinking from a niche industry to a generic capability that underpins the digital economy over the next 10 years.

There is a significant opportunity for professional and industry bodies to focus on both local and global advocacy to create conditions for growth in the private sector.

Professional Bodies

The professional bodies did not receive significant feedback or focus when compared with the other players in the sector. However, it was clear that there was some confusion about the role that each of the many bodies play.

The most common message was that all of the agencies should focus on working together to achieve growth, provide advocacy for the sector, coordinate accreditation, and promote achievements and potential on a diverse and global stage.

Many respondents suggested the sector needs to have clear, vocal and passionate public facing representatives to help raise the profile of the sector, and highlight how it underpins many of the important developments and exciting technological achievements seen across the country. The Spatial Industry Business Association (SIBA) was the organisation mentioned most often to drive these changes.

Technology

While technology was not a large focus, many participants recognised the need for e-Infrastructure to underpin growth.

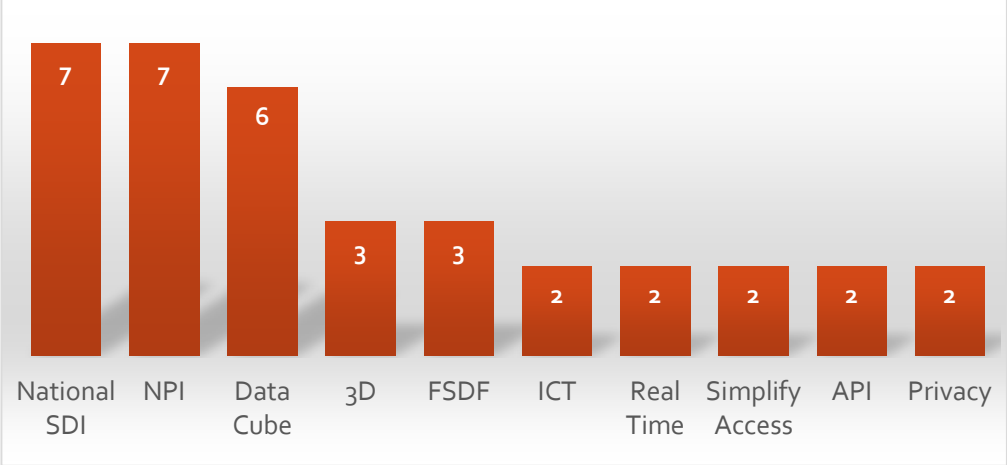
The overarching feedback regarding specific technology development was that if the culture, messaging and roles were clearly established, then the technology change would occur organically.

However, there was also a feeling that national projects could help to accelerate and focus this long term change. It is important to determine who is willing to commit to supporting this transformation, and who has a significant role to play, then consider who needs to work together to make change happen.

A roadmap with priorities for national spatial infrastructure should be developed to provide the underpinning support for growth.

The role of technology was seen as an underpinning element to enable new ideas to take shape easily. Government were seen as the logical drivers of this critical e-Infrastructure.

GRAPH 7. WHAT SHOULD BE THE MAJOR TECHNOLOGY CHANGES?



People who are using spatial services would not necessarily know that they are using our services, but they don't need to. Success can be measured by an increase in

adoption of technology, growth of businesses, and by the acknowledged creation of new solutions which are globally utilised.

Of the technology discussed, Graph 7 illustrates the focus areas particularly around reducing duplication, simplifying access, technology standards and providing underpinning infrastructure for innovation. Acronyms referred to in Graph 7 are as follows: Single Data Infrastructure S(DI), National Positioning Infrastructure (NPI), Foundation Spatial Data Framework (FSDF), Application Programming Interface (API), and Information and Communication Technology (ICT).

Future work from the 2026 Agenda will profile customer markets.

Which sectors can provide most growth?

The final engagement question focused around the growth sectors for the Australian spatial industry. These sectors will be the focus of the external engagement undertaken in August and September 2016 by the 2026 Agenda team. Engagement will focus on examining the following:

- Growth strategies and Industry wide challenges
- Value chain
- Key customers
- Identifying innovators within the sector
- Spatial technology maturity

Next Steps

Outcomes from this paper will be used to create an Ideas Document as a discussion catalyst for a national series of leadership forums. This ideas document will contain a guiding Vision together with a Statement of Needs. These will be validated and expanded through the leadership forums, and expanded in to the 2026 Agenda, Road Map and Action Plan.

Consultation List

The 2026 team would like to thank all those who were interviewed for their time and valuable inputs.

- Adam Smith, CEO Geoplex
- Ana Ouriques, Rupells Griffon
- Arthur Berril, ScotiaBank
- Dr Ben Guy, CEO, Urban Circus
- Dr Brendon McAtee, Manager GEOSpatial, Business Foundations
- Bruce Bannerman, Manager Geospatial Data and Services, BoM
- Chris Malouf, General Manager, SSSI
- Craig Williams, Principal Account Manager, we-do-IT
- Dan Paull, CEO, PSMA
- David Bruce, Omnilink
- David Sinclair, Chair, 43PL, CRCSI
- Denise McKenzie, OGC
- Guy Perkins, Strategic Sales Director, Spookfish
- Helen Owens, Principal Advisor, PM&C Public data
- Igor Stjepanovic, Founder, GIS People
- Dr James McIntosh, Transport Planner & Economist, LUTI Consulting
- Jim Curnow, Chairman, Alexander Symonds
- Lyn Terrett, Managing Director, RapidMap
- Marie Slako, Delivery Manager, Geomatic Technology
- Mark Deuter, Managing Director, Aerometrex
- Mark Freeburn, CEO, AAM
- Mark Nichols, General Manager, Trimble Navigation
- Mark Watt – Managing Director, Business Aspect
- Paul Box, Project Leader, CSIRO
- Professor Matt Duckham, Deputy Head (Geospatial Sciences), RMIT
- Michael Allsopp, Associate Director, Crarter Keck Cramer
- Mike Bradford, CEO, Landgate, ANZLIC
- Paul Farrell, Managing Director, NGIS
- Peter Leihn, Director, CSIRO Data61
- Dr Peter Scarth, Senior Research Scientist, UQ
- Dr Stuart Minchin, Chief of Division, GA
- Professor Stuart Phinn, Director, AEOCCG / UQ RSC
- Rob Freeth, Freeth Computing Consultants
- Rob Rowell, Managing Director, Insight GIS
- Ross Caldow
- Kate Williams, Service Line Lead, GHD
- Naomi Mathers, Industry Liaison, ANU
- Dr Sonny Tham, CEO, Amristar,
- Tom Champion, Associate Director, Reeds Consulting, ISV
- 1 additional consultation

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