



SECURING AUSTRALIA'S SPACE INDUSTRY FORUM 2017

DISCUSSION PAPER

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INTRODUCTION

On 13 July 2017, the Federal Minister for Industry, Innovation and Science, Senator the Hon Arthur Sinodinos AO, announced a review of Australia's space industry capability with a view to creating the necessary framework and incentives to assist Australia's space industry to compete in the US\$323 billion [A\$430 billion] global market for space-related activities.

The Space Industry Capability Review, conducted by an Expert Reference Group chaired by former CSIRO chief executive Dr Megan Clark AC, is scheduled for completion by the end of March 2018.

The Review will inform a national strategy for the sector that reflects both Australia's developing strengths and national interests over the next decade.

Its remit was expanded when the Federal Government announced plans to establish a National Space Agency at the 68th International Astronautical Congress held in Adelaide on 25-29 September.

The Reference Group now has the added task of developing a draft charter for the Space Agency.

On 20 November 2017, the Securing Australia's Space Industry Forum – hosted by Lockheed Martin in partnership with the Australian Strategic Policy Institute and the Space Industry Association of Australia – saw leaders from Australia's space industry, government and academia come together to explore both the opportunities and the challenges presented by the proposed National Space Agency.

The Forum program included a keynote address by Dr Clark and a panel discussion facilitated by Rod Drury, Managing Director, Australia and New Zealand, of Lockheed Martin Space Systems, and featuring some of Australia's leading space industry commentators:

- Peter Jennings PSM, Executive Director of the Australian Strategic Policy Institute
- Air Vice Marshal (ret) Mark Skidmore AM, Chairman of Skykraft
- Michael Pakakis, Director of the Victorian Space Science Education Centre

- Solange Cunin, Founder and CEO of space-education school program Cuberider.

These prominent industry participants highlighted some of the key themes that will form the basis of many conversations among industry, government and academic leaders as the countdown to Australia's National Space Agency begins.

01 WHAT INDUSTRY EXPECTS OF THE AGENCY

Dr Megan Clark, chair of the Expert Reference Group conducting the Space Industry Capability Review, addressed the role and responsibilities of the National Space Agency at the Securing Australia's Space Industry Forum 2017 held in Canberra on 20 November.

While stressing that these are matters still under consideration by the Review, along with the structure and charter of the Agency, Dr Clark shared "some of the guiding principles that influence our thinking" based on extensive industry consultations.

A message from industry participants which "could not have been clearer" was that the Agency should provide only those functions and activities that cannot be performed by industry in the commercial sector.

"Our consultations and analysis have been very clear that the single purpose of the Agency should be to foster the development of the space industry in Australia," Dr Clark said.

"We also got the message that the Agency should have a culture that's nimble and entrepreneurial, that has strong connections to industry and civil space as well as defence and other commercial sectors."

The industry wish list also includes:

- The Agency should "go out and share what's happening" in Australia's space industry and inspire students to consider a career in the space industry.
- The Agency must have "continuity and clout", including the capacity to provide whole-of-government coordination.

- The industry should have a continuing role in the governance of the Agency.
- Investments should have a sound business foundation.

“This is an outstanding opportunity to grow and diversify our economy through space and into new sectors which have very high growth rates and can provide jobs right across the nation,” Dr Clark said.

02 CALLING ALL CHAMPIONS

A frustration frequently expressed by Forum participants was that most Australians aren't even aware that their country has a space industry, let alone that it enjoys an international reputation for excellence and innovation. If Australia is to gear up for a bigger slice of the global space market, it needs to get more students thinking about careers in space.

Michael Pakakis, Director of the Victorian Space Science Education Centre, called on space-industry champions to spread the word.

“We need people that students can aspire to be,” Mr Pakakis said.

“When you look at space agencies all around the world, the populations look up to those organisations because there is nothing that excites students more than if you are connected to space in the classroom.”

Solange Cunin, Founder and CEO of space-education schools program Cuberider, likewise urged the industry to do more to “get everyone excited about what we are doing”.

“Everyone in this room is doing something awesome in the space industry and the average Australian would be floored by what's happening in their own back yard, but no one talks about it,” she told the Forum audience.

Ms Cunin believes sharing stories about Australia's space sector is a role a National Space Agency could fulfil, but in the meantime she urges her industry peers to speak up.

“We have got Australian-designed technology on Mars, we have got Australian technology on most US military satellites. But we don't talk about it and nobody knows that outside of the industry,” she said.

“We have fantastic minds that have been stolen overseas. Bring them back, let's get them in front of the Australian public making them aware of the great things Australians in the space industry have been achieving.

“The more excitement that is generated the more inspired students will be to work in the space sector.”

03 THE SPACE INDUSTRY NEEDS

If the Australian space industry is to realise its potential as a global player, it needs to ensure that it has the skills base to pursue opportunities for expansion.

Solange Cunin, Founder and CEO of space-education schools program Cuberider, warns that Australia's skill shortage in space technology is already “alarming”.

“Within five years we are going to run out of tech talent. If we don't have the talent and if we are just importing talent from overseas, it isn't really achieving what we want for the nation,” she said.

Ms Cunin – who has engineering and science degrees in aerospace, aeronautical and astronautical engineering – fears that sourcing local talent will be difficult unless more students are encouraged into STEM subjects.

“People aren't aware that we have a space industry in Australia. Parents have zero idea that it's even something their children can aim for. So a real challenge is making people aware of what the opportunities are, what career pathways look like and what they should be studying to get involved in that.”

Michael Pakakis, Director of the Victorian Space Science Education Centre, says Australia produces “some amazing scientists, engineers and mathematicians”, many of whom are lured overseas.

“This talent has to go elsewhere and we lose a lot of our talent so I think this Agency will hopefully put the brakes on that because those students will then see a future.”

04 A 'TEAM AUSTRALIA' APPROACH

Air Vice Marshal (ret) Mark Skidmore AM, Chairman of Skykraft, says the creation of a Space Agency will take Australia's space sector to a new level of competition.

"We are going to have to demonstrate ourselves on the world market," he told the Forum.

He urged the Australian space industry to adopt a "bold vision" – including a timeframe – that sets an ambition to which it can be held accountable in Australia and internationally.

Air Vice Marshal Mark Skidmore added that the impetus for achieving that ambition must ultimately rest with the industry rather than the Agency.

"We need to take a 'team Australia' approach, with States and Territories complementing each other rather than being in competition with each other," he said.

Peter Jennings, Executive Director of the Australian Strategic Policy Institute, also spoke on this subject.

He believes there should be a genuinely national approach to growing Australia's space industry and warns that lessons should be learned from the defence industry.

"I do worry that as the Agency develops and the community around it develops that we as a nation adopt an exact replica model of state advocacy for the industry, which we have seen developing in the defence area," he said.

"It hasn't been constructive. We all see the States cannibalising each other in order to attract investment within their jurisdiction. What I would attempt to do is bring the States together through a process which encourages collaboration and not competition."

CONCLUSION

As a leading global space company with a significant presence in Australia, Lockheed Martin is committed to contributing to the crucial dialogue that will flow from the Government's historic decision to establish a National Space Agency.

Such conversations can only lead to stronger relationships between government, the academic community, Australian industry and the community we all serve.

The decision to form a Space Agency has broad and far-reaching economic and security implications for Australia.

But the industry has some important challenges in the meantime.

One of the key outcomes from the Securing Australia's Space Industry Forum was the imperative that industry participants must strive to capture the "hearts and minds" of Australians and inspire people to consider space as a career.

Tomorrow's engineers and technicians are going to be much in demand in the near future to satisfy future national endeavours. Which is why the industry has a key role to play in STEM education. Skills will be the lifeblood of a vibrant space industry.

One of the important messages to emerge from the Forum is that the vision for Australia's space industry is not just to catch up but to go ahead.

Space will strengthen and diversify economic opportunities will underpin Australia's competitiveness in the future. The message came loud and clear from Forum participants that the Space Agency must be focused on fostering the Australian space industry and maximising its capability and capacity.

Some final messages to emerge from the Forum: amplify don't echo; address the vulnerabilities and the threats will look after themselves; find the gap whilst others are minding it; think generation beyond.

There's much to talk about.