SIAA Green Paper:
The 2016/17 Commonwealth Budget and the Civil Space Sector

Australian civil space policy comes within the Industry, Innovation and Science portfolio. This portfolio consists of the Department of Industry Innovation and Science and a number of statutory agencies. In 2016-17 the total budget of the Department and the various agencies (compared with the two previous years' budgets) will be:

	2015	2016[1]	2017[2]
Department of Industry Innovation and Science	$3.5 billion	$1.7 billion	$1.28 billion
Australian Institute of Marine Science (AIMS)	$62.5 million	$63.9 million	$62.7 million
Australian Nuclear Science and Technology Organisation (ANSTO)	$366.1 million	$311.6 million	$324 million
Australian Skills Quality Authority (ASQA)	$37.8 million	Transferred to Department of Education and Training	
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	$1.28 billion	$1.29 billion	$1.33 billion
Geoscience Australia	$168 million	$165.7 million	$190 million
IP Australia	$183.7 million	$205.2 million	$215 million
National Offshore Petroleum Safety and Environmental Management Authority	$37.6 million	$38 million	$32.4 million
Total	**$5.6 billion**	**$3.7 billion[3]**	**$3.4 billion**

According to the 2016/17 Budget papers, the Department's single 'outcome' is unchanged:

> *'Enabling growth and productivity for globally competitive industries through supporting science and commercialisation, growing business investment and improving business capability and streamlining regulation.'*

[1] http://www.budget.gov.au/2015-16/content/bp4/html/bp4_part_01-art_12.htm
[2] http://budget.gov.au/2016-17/content/bp4/download/Budget2016-17_BP4.pdf
[3] Part of the reason for the dramatic reduction from 2015 is that in December 2014 responsibility for 'building skills and capability' was transferred to the Department of Education and Training. The budgetary effect was that responsibility for approximately $1.4 billion of program funding was transferred and the staffing of the Department of Industry and Science reduced from about 2,800 to about 2,500.

The Department's programs are similar in description to the previous year:

- Program 1: Supporting Science and Commercialisation ($197 million)
- Program 2: Growing Business Investment and Improving Business Capability ($535 million)
- Program 3: Program Support ($508 million).

Continuing industry and science sub-programs[4] of possible relevance to the civil space sector include:

- Australian Astronomical Observatory ($1.5 million)
- Australia-China Science and Research Fund ($5.1 million)
- Australia-India Strategic Research Fund ($3.7 million)
- Inspiring all Australians in STEM ($14.2 million)
- Square Kilometre Array Radio Telescope Project ($4 million)
- Cooperative Research Centres Programme ($150 million)
- Research & Development (R&D) Tax Incentive ($2 million)
- Support for Industry Service Organisations program ($4 million)
- Entrepreneurs' Program ($106 million)
- Industry Growth Centres ($61 million)
- Next Generation Manufacturing Investment Program ($21 million)

Key to the role of the Department of Industry Innovation and Science is the implementation of the Government's National Innovation and Science Agenda.[5] According to the Strategic Direction Statement in the Budget papers:

> *'The Australian Government's vision is for an agile economy, capitalising on Australia's commercial, innovative and scientific strengths. The Department of Industry, Innovation and Science contributes to this vision by facilitating the growth and productivity of globally competitive industries. It also supports business innovation and the commercialisation of new ideas and supports businesses in transition as critical requirements for productivity and economic growth.*
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> *Globally competitive industries are important contributors to our economic growth and productivity. It is only through competitive businesses and industries and opening new markets for Australian resources that the jobs and prosperity of the future can be secured. The Australian Government's approach continues to be to secure the jobs and prosperity of the future in a challenging environment where our population is ageing, the terms of trade have fallen from record highs, the Commonwealth budget needs repair and businesses face intense global competition and disruptive technological change.*
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> *By delivering the National Innovation and Science Agenda, the department encourages investment in innovative and entrepreneurial businesses, collaboration between industry and researchers and development of STEM skills and leads by example through encouraging innovative public procurement…'*

[4] Space-related research is also funded from other sources such as the Australian Research Council under the Education and Training portfolio.
[5] http://www.innovation.gov.au/page/agenda

The stated program outcomes in the Strategic Direction Statement of greatest relevance to the civil space sector are that the programs:

> *'support businesses to collaborate with scientists and researchers in universities and other institutions to maximise commercial returns from the government's significant annual investment in science and research and development;'*

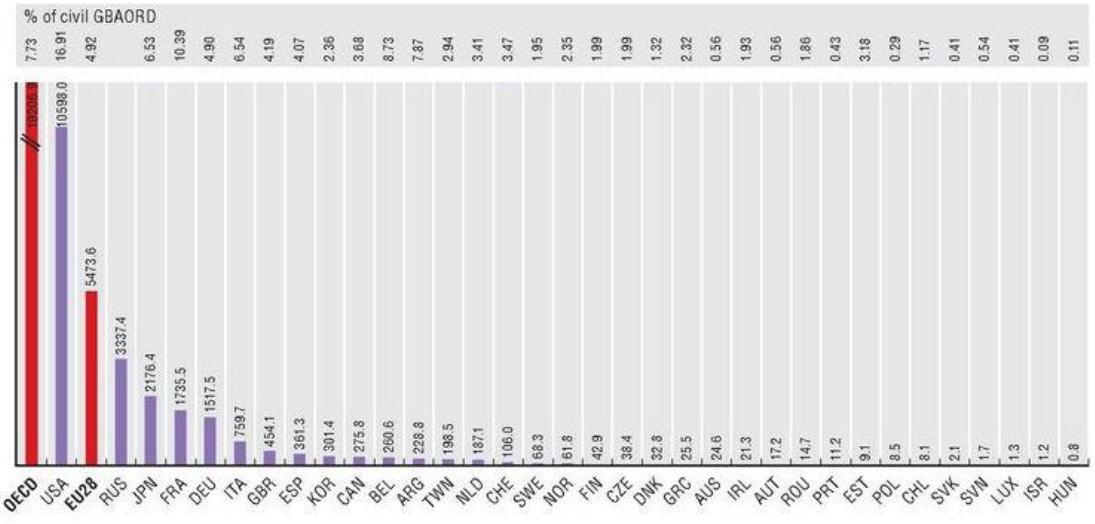
Further details of the Government's $9.7 billion annual investment in science and research and development are set out in Science, Research and Innovation (SRI) Budget Tables, the latest version of which was published in August 2015.[6]

According to the Tables, the estimated amount of government support in 2015-16 for non-military space R&D (see Figure 1) has further decreased to 0.3% of total Commonwealth Government R&D outlays, falling from a recent peak of $84.8 million in 2012-13.

2008-09 $m	2009-10 $m	2010-11 $m	2011-12 $m	2012-13 $m	2013-14 $m	Estimated Actual 2014-15 $m	Budget Estimate 2015-16 $m	% of 2015-16 R&D expenditure
6.2	73.8	69.3	48.2	84.8	31.0	48.9	28.3	0.3

This is confirmed by international studies. The following OECD data[7] compares civil space-related R&D between countries and shows that Australian Government investment in civil space in 2013 was one of the lowest among OECD countries. The following OECD table shows that the Australian government outlay for civil space R&D in 2013 was only 0.56% of all R&D expenditure[8].

2.2. Civil space budgets in GBAORD, 2013



Source: OECD Main Science and Technology Indicators Database.

StatLink http://dx.doi.org/10.1787/888933141703

[6] http://www.industry.gov.au/innovation/reportsandstudies/Pages/SRIBudget.aspx

[7] The Space Economy at a Glance 2014, OECD - http://www.oecd-ilibrary.org/economics/the-space-economy-at-a-glance-2014_9789264217294-en

[8] The exploration and exploitation of space has its own socio-economic objective classification under the OECD's system of classifying government support for science, research and innovation.

Defence science, research and innovation

According to the Science, Research and Innovation (SRI) Budget Tables the level of government spending on defence-related science research and innovation is at a much healthier level:[9]

2008-09 $m	2009-10 $m	2010-11 $m	2011-12 $m	2012-13 $m	2013-14 $m	Estimated Actual 2014-15 $m	Budget Estimate 2015-16 $m	% of 2015-16 R&D expenditure
456.7	493.3	490.4	529.6	490.5	483.3	474.2	482.4	5.0

This is in the context of an estimated actual Department of Defence spend in 2015/16 of $38.9 billion and a total budget in 2016/17 of $38.8 billion.[10] The recently released Defence White Paper[11] and Defence Industry Policy Statement and in particular the announcement of a Next Generation Technologies Fund[12] commencing in July 2016 suggests that there could be increasing space-related research and development opportunities for Australian industry.

Conclusion

Little has changed in the last 12 months in terms of Government civil space-related expenditure policy. Support for publicly funded space-related R&D in the civil sector continues to decline. General industry and entrepreneurial funding programs may provide competitive opportunities for space-related commercial enterprises, possibly in collaboration with university research organisations. The clear thrust of government policy as it concerns the civil space sector is to encourage (1) investment in innovative and entrepreneurial businesses, (2) collaboration between industry and researchers and (3) the development of STEM skills. It is also committed to 'innovative public procurement.' This latter principle may also open opportunities for some space-related service providers. Support for defence-related R&D continues at a constant level and the new emphasis on space capability in the Government's future defence policy statements suggest that the main opportunities for the established players and possibly some 'new space' start-up players are likely to be in this sector of the economy in the foreseeable future.

4 May 2016

[9] http://www.industry.gov.au/innovation/reportsandstudies/Documents/2015-16ScienceResearchAndInnovationBudgetTables.pdf
[10] http://budget.gov.au/2016-17/content/bp4/download/Budget2016-17_BP4.pdf
[11] http://www.defence.gov.au/WhitePaper/Docs/2016-Defence-White-Paper.pdf
[12] http://www.defence.gov.au/WhitePaper/Docs/2016-Defence-Industry-Policy-Statement.pdf at p.72