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Australian Government

**GOVERNMENT RESPONSE
TO THE
INQUIRY BY THE
SENATE STANDING COMMITTEE
ON ECONOMICS
INTO THE CURRENT STATE OF
AUSTRALIA'S SPACE SCIENCE AND
INDUSTRY SECTOR**

November 2009

Background

On 19 March 2008, the Senate referred the following matter to the Senate Standing Committee on Economics for report no later than October 2008 with an interim report by 23 June 2008:

The current state of Australia's space science and industry sector, examining options to strengthen and expand Australia's position in fields that strongly align with space science and industry, giving consideration to any national strategic coordination requirements and taking into account findings and policy options of the National Innovation System Review, with particular reference to:

- a. Australia's capabilities in space science, industry and education, including:
 - i. existing Australian activity of world-class standard, and
 - ii. areas in which there is currently little or no activity but that are within the technical and intellectual capacity of the country;
- b. arguments for and against expanded Australian activity in space science and industry, including:
 - i. an assessment of the risks to Australia's national interest of Australia's dependence on foreign-owned and operated satellites,
 - ii. the potential benefits that could accrue to Australia through further development of our space capability,
 - iii. economic, social, environmental, national security and other needs that are not being met or are in danger of not being met by Australia's existing space resources or access to foreign resources,
 - iv. impediments to strengthening and expanding space science and industry in Australia, including limiting factors relating to spatial information and global positioning systems, including but not limited to ground infrastructures, intergovernmental arrangements, legislative arrangements and government/industry coordination, and
 - v. the goals of any strengthening and expansion of Australia's space capability both in the private sector and across government; and
- c. realistic policy options that facilitate effective solutions to cross-sector technological and organisational challenges, opportunity capture and development imperatives that align with national need and in consideration of existing world-class capability.

The Senate inquiry received eighty-eight submissions and held public hearings in Canberra on 16 May, 29 July and 23 September 2008; in Adelaide on 23 May and 22 June 2008; and in Sydney on 1 August 2008.

The Senate Standing Committee on Economics released its interim report on 23 June 2008. The interim report summarised what the Committee saw as the key questions that needed to be answered to assess in what ways, if any, the Government needs to act to optimise Australia's capabilities in space science, industry and education; and their contribution to the nation.

The Senate Standing Committee on Economics released its final report on 12 November 2008. The report is called *Lost in Space? Setting a new direction for Australia's space science and industry sector*. The six recommendations in the report's final chapter 'chart a course towards Australia regaining an important place in global space science and industry by gradually developing a dedicated space agency.'¹

Government Response

Recommendation 1

The committee recommends as a first step that the Government give the existing unit within the Department of Innovation, Industry, Science and Research more resources to enable the establishment of an Australian Government Space Information Website. This would provide information on government programmes and contacts, and links to Australian companies working in the space industry as well as Australian universities offering courses in space science and space engineering.

Response

The Government notes the recommendation.

The Government committed in the 2009-10 Budget \$48.6 million to establish the Australian Space Science Program over four years. The Program contains \$40 million for the Australian Space Research Program and \$8.6 million for a Space Policy Unit to coordinate and be the central point of contact for Australia's national and international civil space activities.

The Department of Innovation, Industry, Science and Research has acquired the domain www.space.gov.au, and through this intends to improve the visibility of the Australian Government Space Portal, including information on the Australian Government's space related activities and industry capability.

Recommendation 2

The committee notes that Australia is the only OECD country without a national space agency and, as a consequence is missing out on opportunities to engage in this important area of innovation and technology. The committee also notes the comments by the Chief Scientist and the conclusion of the Cutler Report in relation to the importance of the space industry for innovation within Australia. The committee recommends that immediate steps are taken to coordinate our space activities and reduce our over reliance on other countries in the area of space technology.

¹ *Lost in Space? Setting a new direction for Australia's space science and industry sector*, report of the Senate Standing Committee on Economics inquiry into the current state of Australia's space science and industry sector, Commonwealth of Australia, November 2008, page 1.

Response

The Government has established a Space Policy Unit in the Department of Innovation, Industry, Science and Research to coordinate and be the central point of contact for Australia's national and international civil space activities. The Space Policy Unit will liaise with Government agencies on space matters and serve as a focal point for the exchange of information and the development of new policy. The Space Policy Unit will convene, on an as-required basis, a forum of national security agencies to assess security and intelligence aspects on civil space matters. The Department of Defence will continue to have the lead on defence and military space related matters.

The Government is committed to improving Australia's capacity to independently develop and utilise space technology. In this regard, the Government is establishing an Australian Space Research Program to support space research, innovation and skills development in areas of national significance. This program will be managed by the Space Policy Unit.

In its 2009 Defence White Paper, the Government has recognised the importance of being able to protect Australian space-based assets from counter-space technologies and from accidental damage caused by space debris. While the Government noted that we rely on the United States for much of our space advantage, the White Paper identified that we should also seek ways to develop our nascent but growing expertise in space capabilities, including by strengthening Australia's space situational awareness and mission assurance capability, and developing a career stream for space specialists in the Australian Defence Force.

The Defence White Paper also places a high priority on assured access to high-quality space-based imagery to meet Defence's needs for mapping, charting, navigation and targeting data. In addition, the Government announced its intention to improve Australia's intelligence collection capabilities by acquiring a satellite with a remote sensing capability, most likely to be based on a high-resolution, cloud-penetrating, synthetic aperture radar.

The Government considers that Australia derives considerable benefit from arrangements with other countries and commercial bodies that facilitate access to space technology and the data derived from its applications. Such arrangements will remain an important component of Australia's space capability. The Government notes that risk mitigation measures, such as treaty provisions embedding Australian personnel at foreign-owned space tracking stations, are in place to protect Australia's interests in these arrangements. The Government will continue to consider, as appropriate, opportunities to improve the efficacy of such arrangements.

Recommendation 3

The committee notes the wealth of expert, well informed evidence received by the committee. Despite some deviations, the overwhelming majority of witnesses strongly supported the formation of a government unit to coordinate Australian space activities, including those in the private sector. The committee supports this conclusion and notes that there must be a proper balance between industry and government involvement.

Response

The Government notes the recommendation and has established a Space Policy Unit and is establishing an Australian Space Research Program, referred to in the response to Recommendation 2. These initiatives will contribute to better coordination of civil space activities, including those in the private sector. The Space Policy Unit will consult as appropriate with key industry stakeholders and will secure private sector involvement in the Australian Space Research Program.

Recommendation 4

The committee notes the various models of space agency within the OECD and emerging economies and supports Australia having a space agency. The committee recommends initially establishing a Space Industry Advisory Council comprising industry representatives, government agencies, defence, and academics. The committee recommends that the advisory Council be chaired by the Minister for Innovation Industry Science and Research or his representative.

Response

The Government intends to establish a Space Industry Innovation Council. Membership will draw on the knowledge and expertise of innovation leaders from business, unions, science and research agencies, and government.

The Government will continue to hold the Australian Government Space Forum to facilitate confidential information sharing and coordination across government.

The Space Policy Unit will support the activities of the Space Industry Innovation Council and the Australian Government Space Forum to better coordinate civil space activities, including those in the private sector.

Recommendation 5

As a precursor to the establishment of the space agency the Advisory Council would:

- Conduct an audit of Australia's current space activities within six months of the establishment of the Council;
- Analyse the strengths, weaknesses opportunities and threats to Australia's emerging space industry;
- Focus on the key "workhorse" space applications of Earth observation, satellite communications and navigation as the most practical and beneficial initial priorities;
- Systematically evaluate the medium/long-term priorities for a space agency including the national benefit of defence related activities, Earth observation, environmental, land management, exploration, national disaster prevention and management, treaty monitoring, e-commerce and telemedicine;
- Examine the benefits to Australia of improved international collaboration including membership of the international space groups;

- Develop a draft strategic plan for the establishment of a space agency and the most appropriate form of that agency, including public/private funding, budget and staffing priorities; and
- Identify critical performance areas such as research, technological development, development of the skill base, effective partnerships, delivery of new services, and financial management.

Response

The Government notes the recommendation and advises that a number of the recommended tasks will be progressed through the new initiatives dedicated to civil space activities.

The Space Industry Innovation Council, referred to in the response to Recommendation 4, will examine Australia's current civil space activities, risks and strategic priorities with a focus on Earth observation, satellite communications and navigation.

The Space Industry Innovation Council will also consider relevant implications for space science and industry arising from the Defence White Paper and the National Security Science and Innovation Strategy.

The Australian Space Research Program will coordinate and support relevant Australian public and private research and development organisations, and will improve international collaboration by linking Australian organisations with appropriate international space research and education institutions and partners.

The Space Policy Unit will coordinate national policy making and international engagement on civil space issues, ensuring activities including the Australian Space Research Program and the Space Industry Innovation Council, are aligned to appropriate national policies and priorities.

Recommendation 6

The committee recommends that any Australian Space Agency reassess the case for Australia becoming more closely linked to an international space agency.

Response

The Government notes the recommendation.

The Government has established links to several international space agencies, including the National Aeronautics and Space Administration (NASA), the European Space Agency, and the Russian Federal Space Agency. The Government's relationships with these space agencies have been formalised by bilateral treaties.

Australian and United States agencies, including Airservices Australia and the Federal Aviation Administration, are cooperating on the civil use of the Global Positioning System (GPS) and space-based position, navigation and timing (PNT) systems and applications.

Australia, through Geoscience Australia and the Bureau of Meteorology, has cooperative arrangements for earth observation and weather data with key international bodies and foreign agencies, including those from the United States, Europe, Japan, China and India.

In Australia, the Australian Communications and Media Authority (ACMA) licences satellite communication links (up and down), and facilitates international satellite filings with the International Telecommunication Union. The Department of Broadband, Communications and the Digital Economy (DBCDE) has primary responsibility for communication treaty matters, including those relating to satellite issues.

The Government will consider further arrangements for engaging with international space organisations following advice from the Space Industry Innovation Council and the Space Policy Unit and will continue to consider approaches to broader national and international coordination and engagement on space matters.

