



An industry perspective on recent developments in space activities in Australia

Keynote Address to IGNSS Conference
Gold Coast, Queensland
by
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The Role of ASICC

ASICC's principal role is to assist in **the creation of a national climate in which companies are willing to invest in space-related activities and technologies**. We should expect to build on existing strengths in ground segment and applications and aim, when appropriate and relevant, to encourage national investment, public and private, in space segment - satellites - to meet unique national needs.

A second task for ASICC is to **promote space science and space education at all levels, nationally and internationally**, with a view to developing a better informed public debate about the space environment and the role that Australia should play in the diplomacy of space. ASICC is committed to working closely with the Commonwealth Government to take such steps as are necessary to ensure that Australia's access to these services is secure and assured over time.

What Does Australia Seek from Space?

Assured and secure access
(and increased self-reliance)

- In the context of the US alliance
- National pride not a consideration
- The approach is intensely pragmatic – about ‘necessity’ and ‘sufficiency’

Trends in Space

MORE

- Space-faring nations
- Satellites and debris
- Dual-use sensors
- International commercial integration
- Trade with CH, JA, IN, ROK
- Information overhead
- Information bottlenecks
- Information storage
- Sensor capacity & sensitivity
- BMD systems
- Climate Change
- Spectrum demand

SAME/SIMILAR

- Security alliance with the US
- Launch technology
- Under-utilised bus manufacturing capacity
- Humans in space (space tourism?)
- Niche Australian space industry (first order)
- Changes in government AS/US

LESS

- US capacity to act unilaterally in space

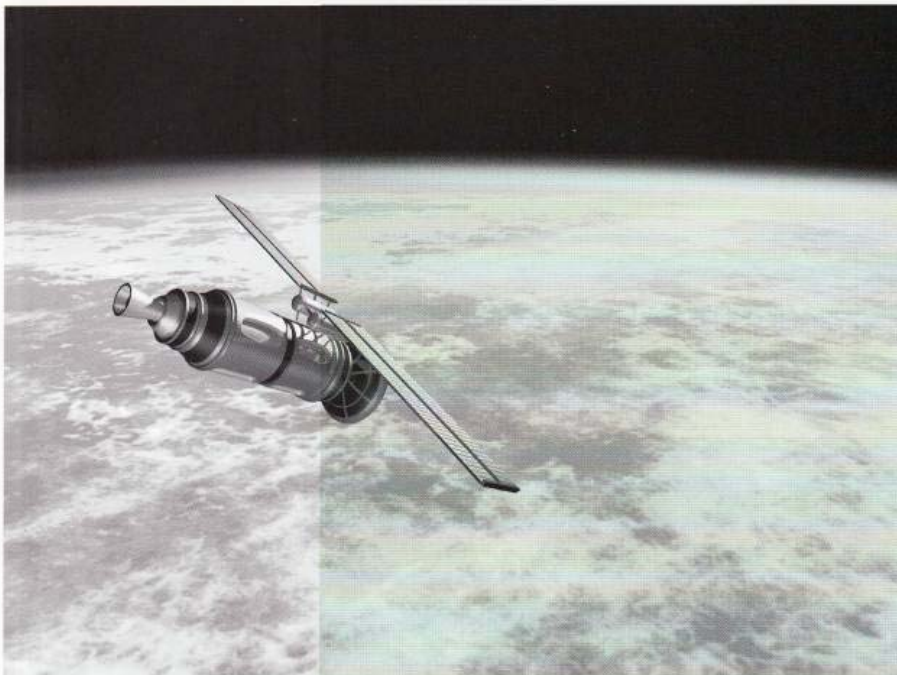
Emerging Drivers for Change

- National Strategy – creative middle power diplomacy
- Spectrum
 - finite and key areas under intense pressure
- Climate Change
 - southern hemisphere the great unknown – climate and ocean models suffer from a dearth of data
- Technological Change
 - networking and ISLs – increased redundancy
 - UAVs – more complex capability mix
- Cyber factors

Government commitment not a ‘flash in the pan’

Past 5 Years - Persistent National Discussion

- International Space University, Summer Program, Adelaide 2004
- Chapman Report, *Space: A Priority for Australia* – end 2005
- Space Science Decadal Plan – start 2006, publish soon
- Kokoda Study – start 2006, published June 2008
- Cutler Review into the National Innovation System
- Senate Economics Committee Inquiry - 2008 (response Nov 2009)
- Astronomy initiatives – SKA (momentum building since 2005), now GMT
- SA Government sponsored space industry study – report March 2009
- Strategic Plan for Earth Observations from Space – July 2009
- PM's National Security Statement to Parliament – Dec 2008t
- National Security Science and Innovation Strategy – Nov 2009
- Second Kokoda Study – planned release Feb 2010
- PM's directive to produce a National Space Policy by mid-2010



Space is the high ground of diplomacy

Kokoda Foundation

If Australia seeks to be respected as a credible middle power in diplomatic terms, it needs space credentials beyond those obtained by hosting ground stations

Space is a 'global commons':

Assured and secure access cannot be enforced, can only be achieved through agreements and cooperative activity

Dependency, unless managed can become a vulnerability

Space and a Resilient Society

Refers to:

Resilience

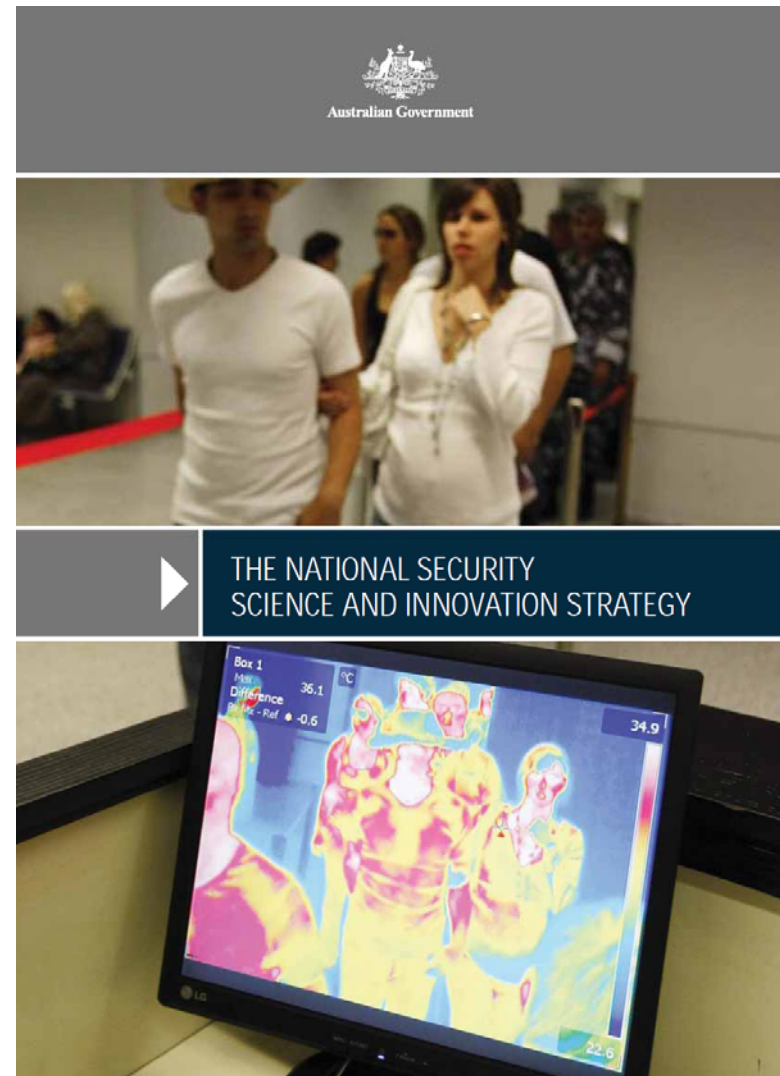
Critical Infrastructure Protection

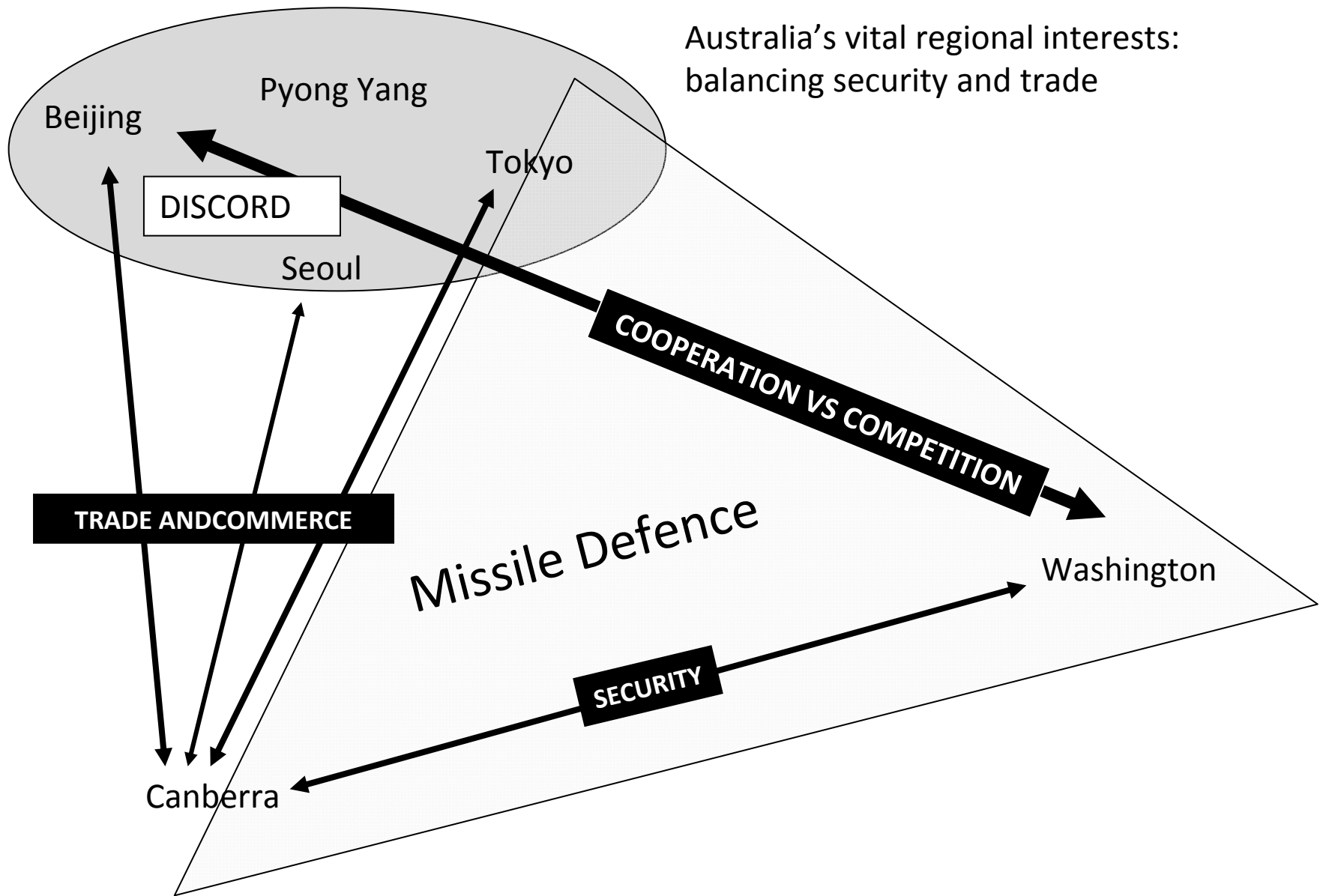
Cyber Security

Social Cohesion

Forecasting, modelling and risk assessment

First responder capabilities

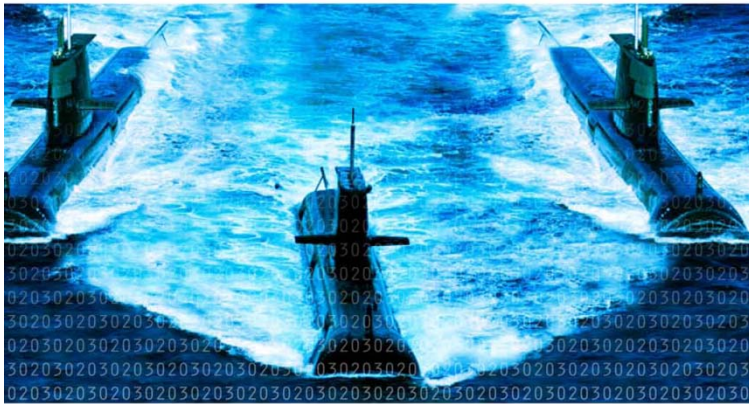




Defence White Paper 2009



DEFENDING AUSTRALIA
IN THE ASIA PACIFIC CENTURY:
FORCE 2030



DEFENCE
WHITE
PAPER
2009

www.defence.gov.au

32 references to 'space' (2000 – nil)

14 references to 'satellite' (2000 – 2)

2 references to 'BMD' and a call for
"hedging investments"

Proposes a SAR satellite

Proposes a cadre of 'space specialists'

Space Situational Awareness a priority

Improved information management
(ground segment) – essential for NCW
- Wider national security implications

Defence Capability Plan 2009: Space Projects



JP2008 Wideband SATCOM

Ph 3H 100-500m *

Ph 5B 100-500m

JP 2044 Geo-Int

Ph 3A.1 100-500m

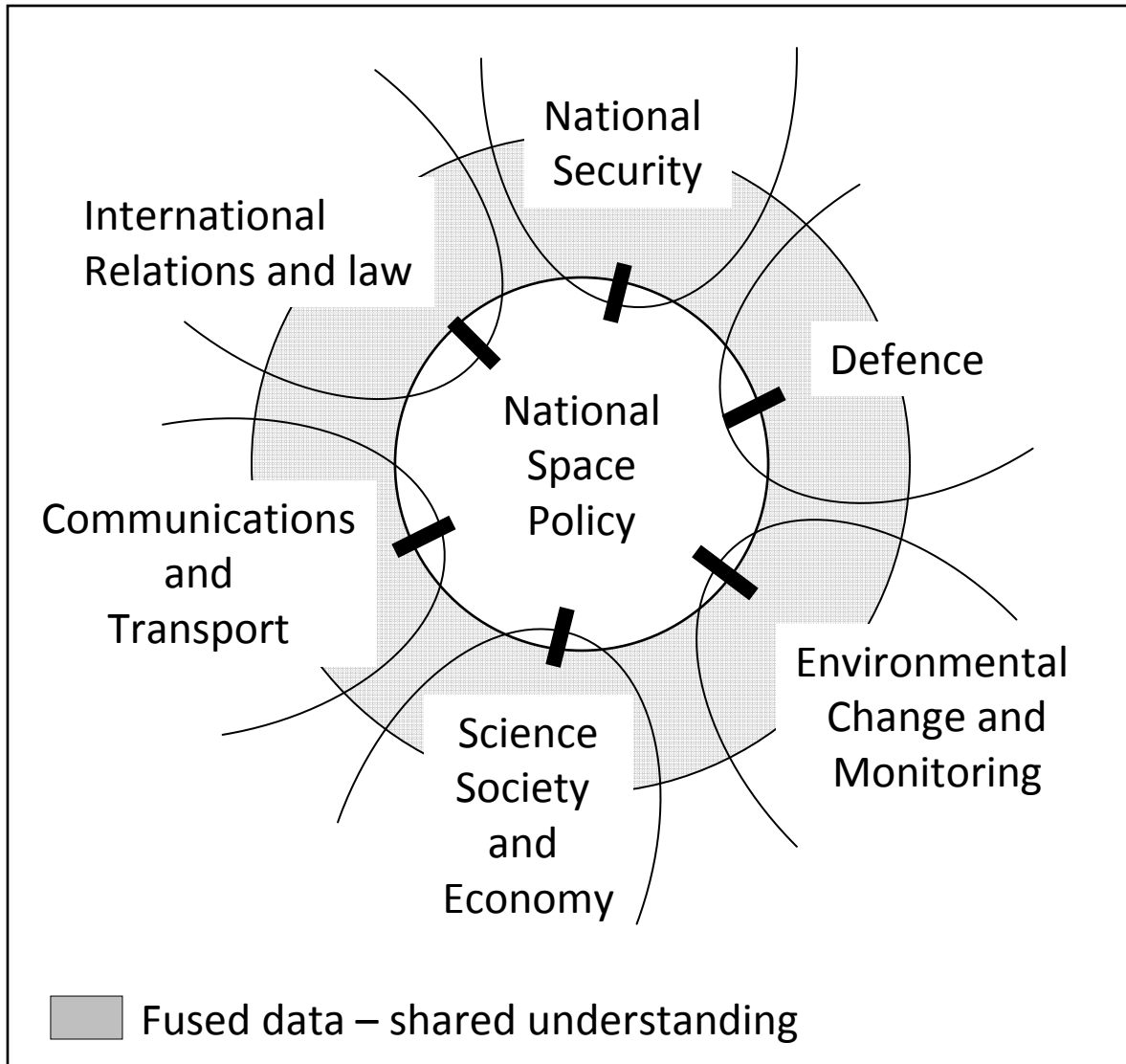
Ph 4 100-500m

JP 2078 Hyper-Spectral Imaging

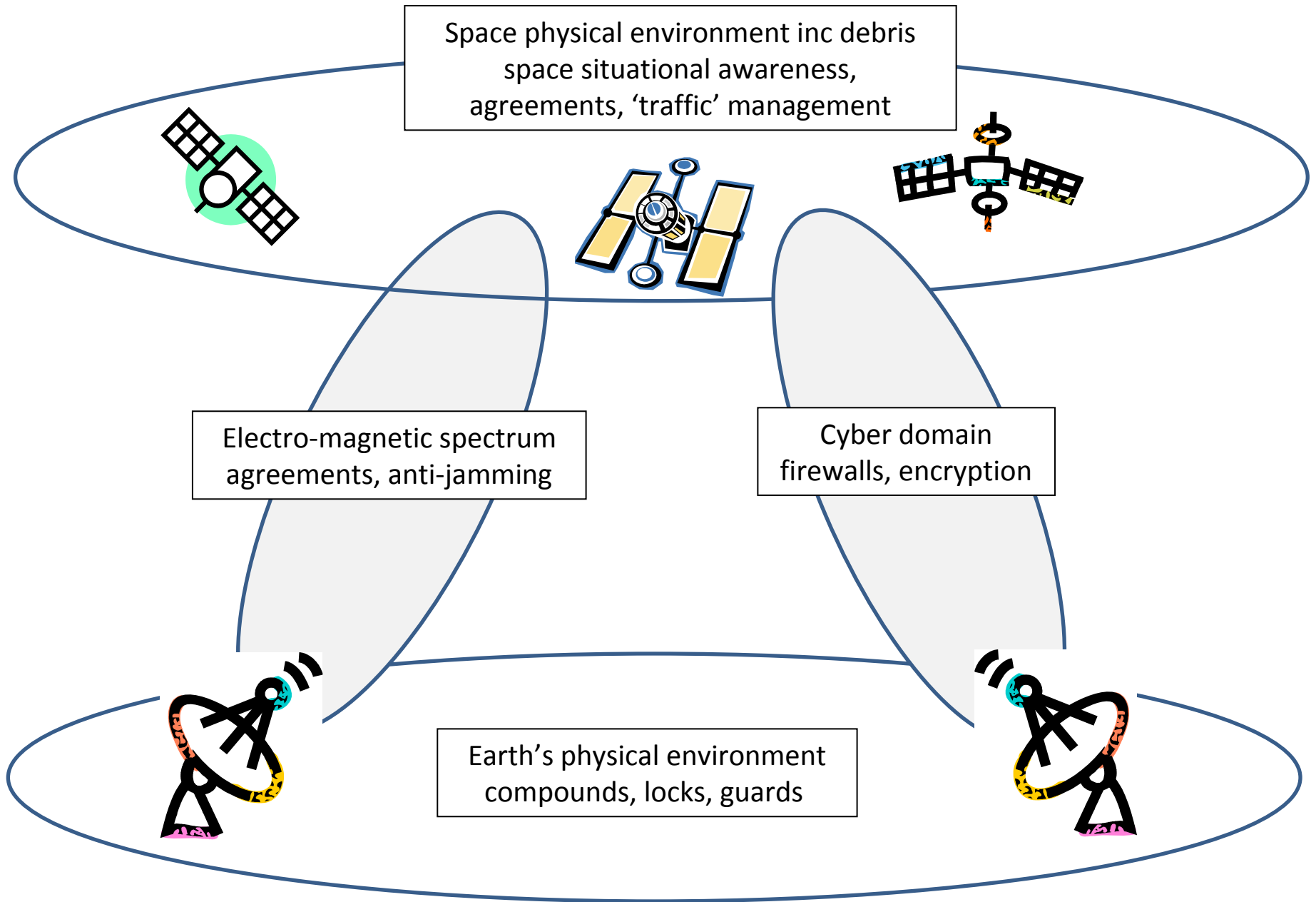
Ph 2 100-500m (mid-range)

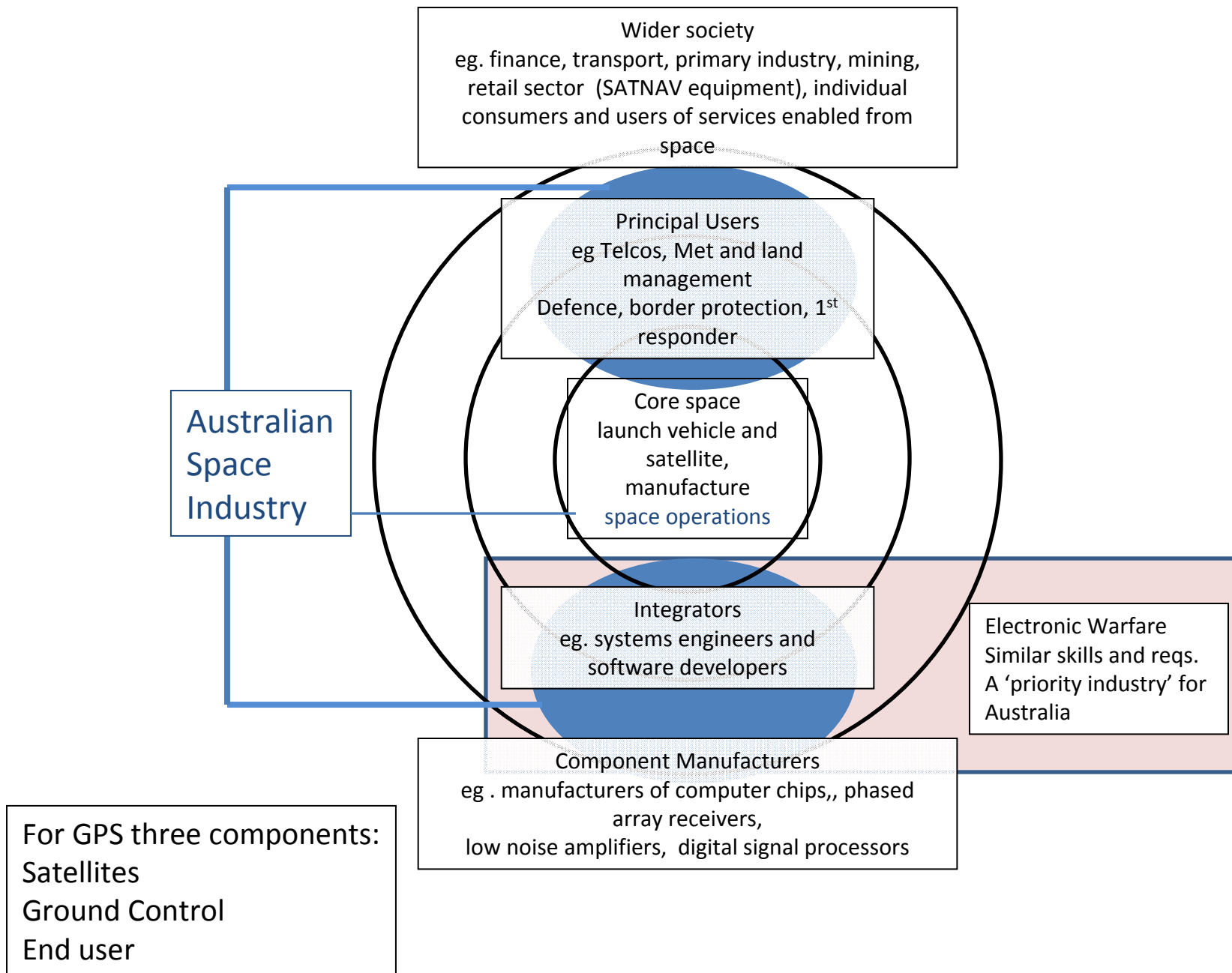
Total 1+bn over next 5 years (2006 = 1+bn)

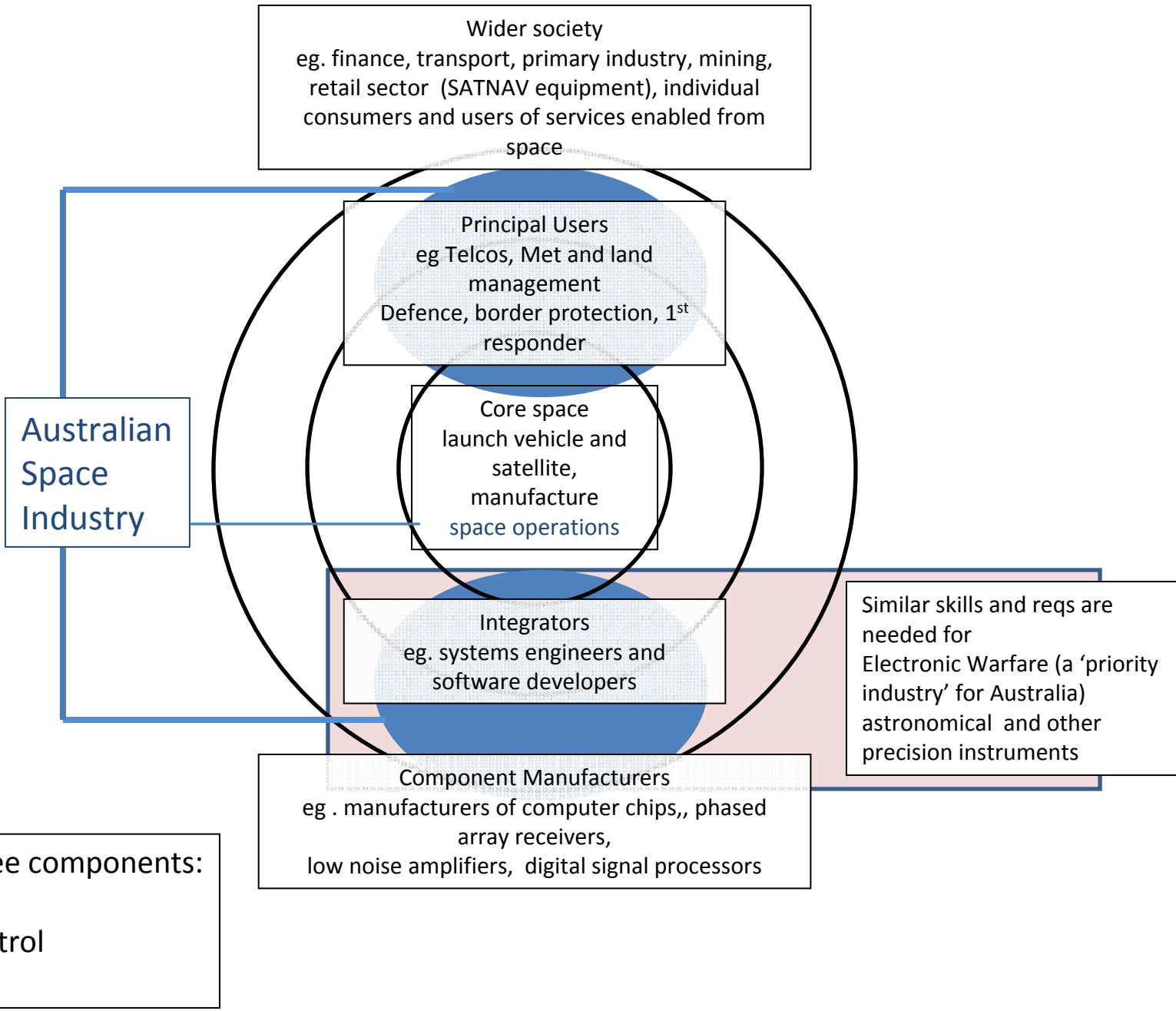
*Acquisition Categorisation (ACAT) level III “ . . . moderate strategic significance to the ADF”



The Domains of Space Security







And what has this achieved?



The Australian Space Science Program

Key Points

- The Space Policy Unit will coordinate Australia's national and international civil space activities.
- The Australian Space Research Program will provide grants to support space research, innovation and skills development in areas of national significance.

Facts and Figures

Space technologies and expertise are an essential element in addressing many areas of national importance, including national security, climate change, weather, natural resource management, forestry and agriculture, and disaster management. In addition, the demand for both public and private services associated with space technology will continue to increase. Government leadership and investment in space science and earth observation will have important public good benefits.

The Space Policy Unit will coordinate the national and international civil space activities. The Space Policy Unit will coordinate the national and international civil space activities. The Space Policy Unit will coordinate the national and international civil space activities.

The Australian Space Research Program will provide \$40.0 million over four years through a competitive grants process. This will support projects and coordinate relevant Australian public and private research and development organisations, linking them with industry and international space agencies/organisations, where appropriate.

Government leadership and investment in space science and earth observation will have important public good benefits.

The program will provide competitive grants in two streams:

- *Space Education and Development Grants* of up to \$1.0 million will support secondary and tertiary student space projects and education activities, including possible international educational opportunities and the establishment of national space education

40M for a space research program
A Space Policy Unit
A review of Australian space capabilities and interests
A lot of money for astronomy

Super Science – Space and Astronomy

Key Points

- The Government will invest \$160.5 million in space science and astronomy that will further boost our proud record of scientific achievement in these areas.
- An Australian Space Research Program will be established to support space research, innovation and skills development, and to link space research with industry.
- An Australian National Centre of Square Kilometre Array (SKA) Science will be established in Perth to host new high performance computing facilities and expertise to support SKA research and other high-end science.
- This investment will increase Australia's chance of hosting the world's most

for example, the ability to measure accurately the effects of relativity and variations in the earth's gravity enable satellite-based Global Positioning Systems to guide our aeroplanes and ships and even our cars.

This initiative will target key space science and astronomy priorities identified in the Review of the National Innovation System and the 2008 *Strategic Roadmap for Australian Research Infrastructure*.

It will provide funds to address critical infrastructure needs and deliver facilities that will enhance Australia's existing research strengths in space science and astronomy, generating commercial spin-offs with applications ranging from telecommunications to weather and climate mapping.

A total of \$160.5 million will be provided over the four years to 2012-13. Deliverables under the initiative include:

- \$80.0 million to establish a Square Kilometre Array (SKA) science and high performance computing centre in Perth.
- A net increase in funding of \$20.9 million for the operations of the Anglo-Australian Observatory in Sydney and at Siding Spring nearabarabran.

on for national infrastructure funded by Australia Ltd.

ion to establish an Australian Space Program.

in to establish a Space Policy Unit Department of Innovation, Industry, and Research.

Hon Kim Carr
Innovation, Industry, Science and Research

Australian Space Research Program

- Stream A education grants – 200k – 1m over 3 years
university lead plus at least one other collaborator
- Stream B research grants – up to 5m over 3 years
minimum of one research org. and one company
- 50% cash/in-kind contributions sought from applicants
- 4Cs approach
 - Credibility
 - Capacity
 - Collaboration
 - Communication
- 4 rounds – Dec 2009, 2 in 2010, 1 in 2011 (re-submits are allowed, taking account of feedback)
- 40m not allocated between streams or rounds
- Reduced paperwork, no peer review as for ARC
- Predict a balance of investment across the nation and across disciplines
- Astronomy, Astrophysics and Cosmology – expressly ruled out – everything else is ruled in

Questions

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**For Information about ASICC, including how to join, see:
www.asicc.com.au**