

Williams Foundation Conference
The Requirements of a Sovereign Defence Space Capability

1 December 2021
National Gallery of Australia

Updated 29 November 2021

Aim

The aim of the December 2021 conference is to examine the core requirements of a sovereign Defence Space capability and identify the priorities for future investment. It will highlight the need for a coordinated effort across Government and industry to design, build, operate, and sustain a sovereign Defence Space capability.

Background

Since 2013 the Sir Richard Williams Foundation seminars have focused on building an integrated fifth generation force. Recent seminars have evolved from the acquisition of new platforms to the process of shaping and better understanding the environment in which the integrated force will prepare and operate. Moreover, they have highlighted the challenges of acting independently at an accelerated tempo and in sustained, high intensity, complex Joint operations. While COVID-19 prevented the Foundation from hosting any seminars in 2020 the narrative remains.

Building on the success of the first seminar in 2021 – Next Generation Autonomous Systems - the second seminar - The Requirements of a Sovereign Defence Space Capability - will address the increasing importance of Space as an operational domain and the steps to be taken for the Australian Defence Force to equip, organise, and prepare for multi-domain operations.

The Requirements of a Sovereign Defence Space Capability

When the United States Air Force conceived and established the Space-based Global Positioning System in 1973 to enable more accurate military navigation, few would have imagined the impact it would have on modern society, the Western national security apparatus, and the Australian way of life.

Fast forward to 2021, global economic security is now dependent on Space-based capabilities, and Defence must play an increasingly prominent role given the quantum of global trade which passes through the region, a third of which transits through the South China Sea.

There are now over 2,600 satellites in orbit and the Australian Defence Force has become increasingly dependent on a sophisticated blend of Space-related technologies which must now develop and accelerate to meet the demands of integrated multi-domain operations to counter new threats and new risks. These demands include resilient long-range communications, and greater levels of situational awareness with the ability to sense, track and identify targets in and from Space in all orbits.

On the supply side, current Space capacity is insufficient to meet these demands, and the need for a sovereign capability must be driven by a better understanding of the full spectrum of Space-related requirements across policy, process, infrastructure and technology. The imperative to develop Space capability must consider the people and organisational aspects which leverage Australia's relatively small

but highly skilled population. It will require a national effort to leverage people, technology and Australia's vast geographical area of interest and highly favourable environmental conditions to conduct activities in and from Space.

Space is becoming increasingly congested and contested and likely to become a warfighting domain in future high intensity conflicts in the Indo-Pacific region, as well as an essential campaign enabler for Shape Deter and Respond missions and tasks. This will drive the need for increased survivability of Space-based systems and the ability to counter and deny competitors across the spectrum of conflict.

Industry Perspectives

Industry involvement will be central to the success of the seminar. While certain aspects of space operations are becoming more affordable as methods of access improve and the economic barriers to entry are lowered, it is vital that Australian sovereign space capability exploits the high value activities which develop a broad and sustainable industrial and technological base linking research and development with fielded operational capability.

In the near term, the majority of the Government's \$7 Billion investment in the space domain over the next decade is rightly focussed on the defence sector which is well equipped to deal with the acquisition of advanced, complex technologies and platforms while developing a highly skilled workforce. However, this investment needs to be prioritised in a way which sets the conditions for long-term success at a national level to develop a capability edge. Emerging strategic trends suggest that those priority investment areas relate to three specific capabilities:

- Space Domain Awareness, to provide assured access and control of activities to and from space;
- A sophisticated Intelligence Surveillance and Reconnaissance (ISR) enterprise enabled by advanced multi-phenomenology sensors and data management systems, and
- A network of resilient and secure communications and data link systems.

An industry perspective relating to capability development across technology, workforce, organisation, infrastructure, and policy to deliver a sovereign defence space capability is anticipated

Conference: *The Requirements of a Sovereign Defence Space Capability*
1 December 2021, National Gallery of Australia

Program
(updated 29 November 2021)

Time	Topic	Speakers
0800-0830	Registration and light breakfast	
0830-0835	Welcoming Remarks	AIRMSHL Geoff Brown AO (Retd) Sir Richard Williams Foundation
0835-0850	Introduction and MC	Darin Lovett, Director Space, South Australian Space Industry Centre
0850-0900	Australian Space Capability - Historical Perspective	Amy Hestermann-Crane, The Central Blue
0900-0910	Threats to Space Operations	Dougal Robertson, Sir Richard Williams Foundation
0910-0930	Sovereign Defence Capability and Space	Dr Malcolm Davis, Australian Strategic Policy Institute
0930-0950	Space Domain Research & Development	Prof Tanya Monro, Chief Defence Scientist, DST Group
0950-1010	Commercial Space-based ISR	AIRCDRE Richard Keir AM, CSC (Retd), Sir Richard Williams Foundation
1010-1040	Break – Morning Tea	
1040-1055	Sovereign and Resilient Space Battle Management	AVM Chris Deeble AO, CSC (Retd), Executive Director, Strategy, Northrop Grumman Australia
1055-1110	Space Domain Awareness	Nick Leake, Head of Satellite and Space Systems, Optus
1110-1130	Space Control	AIRCDRE Phil Gordon, Director General Air Defence and Space
1130-1145	Resilient Satcom in a Counterspace Age	David Ball, Regional Director Australia New Zealand, Lockheed Martin Space
1145-1205	Sovereign Defence Space Considerations	Terry Van Haren, former Air Attaché Washington
1205-1230	Panel	Panel members
1230-1330	Lunch	
1330-1345	The Requirements of a Sovereign Defence Space Capability	AIRCDRE Ross Bender, Commander Air Warfare Centre
1345-1405	Australia's Civil Space Industry – Now and into the Future	Anthony Murfett, Deputy Head of the Australian Space Agency
1405-1420	Pre-recorded video	AVM Cath Roberts AM, CSC, Head of Air Force Capability
1420-1435	Navy Perspective	CDRE Matthew Doornboss, RAN Director General Navy Information Warfare (representing Chief of Navy)
1435-1450	Army Perspective	BRIG Ian Langford DSC and Bars Director General Future Land Warfare (representing Chief of Army)
1450-1505	Defence's Vision for Space Capability	AIRCDRE Nicholas Hogan, Director General Space Domain Review (representing Chief of Air Force)
1505-1515	Formal Close	AIRMSHL Geoff Brown AO (Retd), Sir Richard Williams Foundation