

Thank you Dr Lovell,  
Your Excellency, Mrs Underwood  
Professor Le Grew;  
Distinguished Guests;  
Ladies and Gentlemen.

We are very fortunate in Australia to have a Vision of what is necessary to keep our Nation at the forefront of science and technology. This 12 m VLBI telescope is a shining example of this vision becoming a reality. It is part of an earth science and geospatial research infrastructure program that is unquestionably world-class and AuScope is proud to have been a part of the collaborative effort in establishing this important facility.

AuScope was established in 2007 to implement a Federally funded infrastructure program aimed at supporting earth and geospatial science related to the Structure and Evolution of the Australian Continent. The funds that established this telescope facility are part of a 5-year, 42.8million program within the National Collaborative Research Infrastructure Strategy (NCRIS), managed by the Department of Innovation Industry Science and Research. We applaud this initiative from NCRIS as it has provided unique opportunities for important research to be undertaken into the Australian Continent to address a range of challenges that face Australia in future.

This Infrastructure is a critical part of the AuScope Geospatial Program. The program's goal is to establish an enhanced National Geospatial Reference Framework and provide a high-resolution spatial platform for other earth observations. This platform will also enable the next generation of research in geodesy, short-term continental deformation, natural seismic hazard analysis and the monitoring of environment-induced change in the continent (including ocean-continent interaction, and ground and surface water redistribution).

Sometimes we need to remind ourselves that the Australian Continent is the platform on which we live and from which we derive much of our wealth. A key obligation of the Australian earth and geospatial science community is to understand how our Continent will change over the next century and beyond, in response to local, national and global impacts. It is one thing to understand the past, but the real value to the Nation of the AuScope Infrastructure Program comes from increasingly precise and reliable predictions of what will happen on the Continent in future.

For example, our ability to predict the capacity of the continent to continue to deliver resources and related wealth, to remain as a safe and sustainable platform for living, and to be the basis for future wealth-creation options, is a high-value outcome indeed.

Geospatial information underpins most areas of economic activity in a developed nation. As technologies have improved, the applications have expanded and the dependence on geospatial information has grown. Satellite-based positioning measurements have actually reached a point where the deformation and movement of the Australian continent now present major limitations in how the methods are used for real-time positioning applications. The geospatial component of AuScope will lead to a capability to monitor and measure these deformations and motions of the Continent to a millimetre of accuracy and will expand the range of applications in areas such as precision agriculture, mining, machine guidance and remove geographic restrictions that currently exist and subsequently enhance the efficiency of current positioning applications.

For example, data derived from geospatial infrastructure contain information on the strain in the Australian Continent and hence are an essential input into the assessment of tectonic stress leading to earthquake and related activity. It also provides information on the vertical land movements along the coast and hence they are critical to understanding sea-level change. The positioning network being established through the AuScope program places the Australian effort at the frontiers of geospatial science and enhances access to the international programs for monitoring the state of the planet in real time.

The AuScope Very Long Baseline Interferometry (VLBI) program includes this new telescope and also new VLBI sites at Yarragadee (WA) and Katherine (NT). A new VLBI antenna has also been established by our New Zealand collaborators. This combined network represents the single-most important VLBI network in the southern hemisphere. It will make an immediate improvement to the observing programs of the planet's global motions and deformation, including the Earth's rotation, which feeds back into an improved accuracy of Global Navigation Satellite System (GNSS) positioning.

Essentially, the expansion of VLBI infrastructure on the Australian continent will put our researchers at the forefront of improving the global VLBI analysis over the next decade and is of fundamental strategic importance to the Nation.

It also has important International linkages. The National Geospatial Reference Framework will provide a regional capability in a global context. The Australian Continent occupies a geographically strategic position for strengthening the global reference frame. As such, all data will be available to the international community represented by organisations such as:

- the International Association for Geodesy and its Global Geodetic Observing System;

- the International Earth Rotation and Reference Systems Service, responsible for defining the various reference frames used in geospatial positioning;
- the International Laser Ranging Service, responsible for coordinating the international laser tracking of satellites for geodetic purposes.
- And of course a special mention of the International VLBI Service who are well represented here, and who will be the primary international users of the data and products from this telescope and the full Australasian VLBI array.

Consequently, Australian data will be critical both locally and globally for a geographical region that until now has been poorly covered by reliable, accurate and real-time accessible tracking systems.

So, no matter what position we look at this program from, the paramount and critical significance of achieving the goals of the AuScope Geospatial Program, become obvious.

The success of an infrastructure Program of this nature has only been possible through strong collaboration amongst Australian and international partners, underpinned by NCRIS – a visionary collaborative infrastructure program funded by the federal government. The program has been a benchmark for collaboration especially amongst State and Commonwealth organisations - in particular Geoscience Australia and here I would like to acknowledge Gary Johnston who manages AuScope’s Geospatial Program, and, of course, University of Tasmania where Dr Jim Lovell and Professor John Dickie have been instrumental and are to be congratulated.

We now look forward with great anticipation for future National Infrastructure Programs that will support research infrastructure through the next decade.

Thank you very much.

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Speech given by Dr Bob Haydon

CEO AuScope Limited

Launch of AuScope 12m VLBI telescope at Mt Pleasant Observatory, Cambridge, Tasmania

9 February, 2010

Acknowledgement is made to Kurt Lambeck and Mike Etheridge who developed the Investment Plan for the AuScope Infrastructure from which the background material was drawn

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