



## BACKGROUNDER

### AUSCOPE UNITES AUSTRALIA'S BEST EARTH RESEARCHERS

The AuScope initiative is a collaboration amongst over 20 of Australia's major research institutions and key government agencies.

Together, AuScope's partners have contributed more than \$70 million to grow and develop the initiative's research infrastructure, on top of the initial \$43.3 million grant provided by the Australian Government under the National Collaborative Research Infrastructure Strategy (NCRIS).

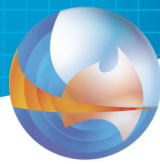
In June 2010 Science Minister Kim Carr announced a further \$23 million in funding under the third round of the Education Investment Fund to establish the Australian Geophysical Observing System, highlighting the value of AuScope's work both to the scientific community and to the wider Australian society.

AuScope's partners are:

Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Geoscience Victoria
Curtin University of Technology	Geological Survey of Western Australia
Geoscience Australia	Geological Survey of Queensland
Macquarie University	Landgate WA
Monash University	Geological Survey of New South Wales
The Australian National University	Queensland Department of Natural Resources and Water
University of Adelaide	New South Wales Department of Lands
University of Melbourne	Mineral Resources Tasmania
University of Queensland	Tasmanian Department of Primary Industries, Water and Environment
University of Sydney	
University of Tasmania	Northern Territory Department of Primary Industries, Fisheries and Mines
University of Western Australia	Primary Industries and Resources South Australia

Each of these members is currently engaged in individual and collaborative research projects that both draw on, and contribute to, AuScope's research infrastructure.

Examples of this research infrastructure include:



**The AuScope National Virtual Core Library**—this involves construction and deployment of seven of CSIRO’s robotic, automated spectroscopic core logging machines (HyLoggers™) in seven nodes housed in each state and territory geological survey. Each robotic instrument consists of sensitive visible and infrared spectrometers, a very high resolution digital camera, laser profilometer, robotic x/y table, power supplies, lighting, and a control and data management computer.

Three new **Very Long Baseline Interferometry radiotelescopes**—these have been constructed at sites at Yarragadee (WA), Katherine (NT) and Mt Pleasant near Hobart (TAS). This also includes atomic clocks, signal receivers and processing equipment, as well as an upgrade of components at the Mt Stromlo **Satellite Laser Ranging** facility near Canberra, to include larger power modules and increased laser pulse fire rates. This enhances the system’s ability to range to high orbiting satellites.

The new **Global Navigation Satellite Systems** network—approximately 100 new stations are being built across Australia using NCRIS and state government funds. Each site includes a GNSS receiver, antenna and meteorological sensors to dramatically improve positioning accuracies for research and commercial applications.

The **AuScope Grid** provides the underlying software architecture to enable seamless discovery of, and access to, data and information held in different organisational databases. The grid provides distributed data storage hardware, high bandwidth network links, data management protocols, middleware and software that provides the ‘glue’ that makes the major geoscience and geospatial data stores of the government agencies accessible to research communities and industry end users. These web-based services are accessed through the Grid Portal developed by AuScope’s partner CSIRO.