



AARNet joins forces with consortium partners to work towards the world's most extensive National Time and Frequency Network

Perth, AUSTRALIA – 17 August 2011– AARNet, Australia's Academic and Research Network, has partnered with local organisations to develop technology that will enable Australia to build the world's most ambitious National Time and Frequency Network (NTFN). The Australian Research Council recently confirmed funding of \$600,000 for the project through its Linkage Projects scheme, which will see the creation of specific trial links to test accurate time and frequency data across the Australian continent via AARNet's optical fibre network. The consortium is made up of high profile organisations including The University of Western Australia, CSIRO, the Australian National University, the National Measurement Institute (NMI), Macquarie University and the University of Tasmania. These institutes will collaborate to develop the science, technology and training needed to deliver a large-scale project such as the NTFN. Why do we need an NTFN? Time and frequency measurements are essential for many of the technologies underpinning modern life including telecommunications, broadcasting, commerce, IT and scientific projects such as radio astronomy. Recent advances in optical fibre technology have provided the potential to transfer data almost 1000 times more accurately than previously possible. This fibre based transfer has already been realised in Europe over dedicated networks spanning over 900km. The AARNet consortium is now bringing this technology to Australia, testing methodology that will eventually enable the roll out of the largest global NTFN, spanning 4,000km across the Australian continent. "This project will enable us to push the boundaries of possibility when it comes to the development of time and frequency networks," said Guido Aben, E-Research Director of AARNet. "These trials will demonstrate the feasibility of an Australian NTFN over ten times more expansive than its European counterparts, utilising AARNet's existing network. It will provide Australian academics with a competitive advantage over their international colleagues." Who will the NTFN benefit? Convenient access to timing signals directly traceable to NMI's national standards for time and frequency will benefit a wide range of commercial and IT activities that require accurate time stamping of transactions. Numerous scientific disciplines will also benefit from this network including those involved with fundamental optical physics and engineering, encryption by quantum-key distribution, radio astronomy, advanced telecommunications and standardisation of high-precision laboratories. In particular, an Australian NTFN will benefit major new ventures such as AuScope earth science infrastructure system, the proposed Atomic Clocks Ensemble in Space system for Australian space science and Australia's bid for the Square Kilometre Array, which will be the largest radio telescope in the world. "Access to accurate time data is critical to many research initiatives," said Professor Andre Luiten, University of Western Australia. "The existence of this technology, delivered through the NTFN, would, for example, boost Australia's bid for the Square Kilometre Array radio-astronomy project. Accurate time signals allow us to fuse together what different telescopes across the country can see at a particular moment to give a single coherent picture." Looking to the future A staged approach will be taken to deploy the NTFN trial, with extensive works planned on both the eastern and western reaches of the AARNet network. The trial is expected to be completed in 2015. "This venture clearly demonstrates the value of a long haul fibre network dedicated for research and development. The project will benefit Australia's academic community for generations to come, helping to establish Australia as a leading nation for innovative research," said Chris Hancock, CEO of AARNet. - ENDS - About AARNet AARNet Pty Ltd (APL) is the company that operates Australia's Academic and Research Network (AARNet). It is a not-for-profit company limited by shares. The shareholders are 37 Australian universities and the CSIRO. AARNet provides high-capacity leading edge Internet services for the tertiary education and research sector communities and their research partners. AARNet serves more than one million end users who access the network through local area networks at member institutions. For further information, please visit: www.aarnet.edu.au. For further information, please contact: Media Contact: Almira Anthony Max Australia +61 2 9954 3492 almira.anthony@maxaustralia.com.au