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National Broadband Network: Fibre-to-the-premises (FTTP) in greenfield estates

The Australian Information and Communications Technology in Education Committee (AICTEC) welcomes the opportunity to respond to the consultation paper on FTTP in greenfield estates. AICTEC is a national, cross-sectoral committee that advises Australian, state and territory Ministers for education and training through the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) on the economic and effective utilisation of online technologies in Australian education and training.

The Government has committed to a number of fundamental education and training reform initiatives that aim to support the long term productivity and economic growth of Australia through facilitating the integration of information and communications technologies (ICT) to support teachers and students to communicate, collaborate and access education resources. Affordable, high speed broadband connections – to educational institutions and to students and learners in their homes and workplaces – will be essential if this potential is to be realised.

The Australian Government is committed to enriching the quality of education in Australia and is working collaboratively with state and territory government and non-government education authorities to achieve this through the Digital Education Revolution (DER). The aim of the DER is to contribute sustainable and meaningful change to teaching and learning in Australian schools that will prepare students for further education, training and to live and work in a digital world.

Through the DER, the Government is providing \$2 billion over six years to:

- provide for new ICT equipment for all secondary schools with students in years 9 to 12
- support the deployment of fibre-to-the-premises broadband connections to Australian schools
- collaborate with states and territories and Deans of Education to ensure new and continuing teachers have access to training in the use of ICT that enables them to enrich student learning
- provide for online curriculum tools and resources that support the national curriculum and specialist subjects such as languages
- enable parents to participate in their child's education through online learning and access

- establish support mechanisms to provide vital assistance for schools in the deployment of ICT.

These initiatives aim to support the long term productivity and economic growth of Australia through facilitating the integration of ICT, including high speed broadband, to help teachers and students to communicate, collaborate and access education and training resources. Australian students and learners need greater access to, and more sophisticated use of ICT. They need the best hardware, high speed broadband connections, quality digital content and well trained teachers to integrate technology into teaching and learning.

The Australian Flexible Learning Framework (Framework) is the vocational education and training (VET) sector's national e-learning strategy. It provides the VET system with the essential e-learning infrastructure and expertise needed to respond to the challenges of a modern economy and the training needs of Australian businesses and workers. The Framework has acknowledged, as a fundamental principle, the importance of a cost effective, high speed broadband that supports flexibility in the delivery of education and training to the VET sector.

High speed broadband connectivity is also a crucial component of Australia's higher education and research system, not least because it underpins improved learning outcomes, access to international research materials, national and international collaboration, and facility sharing.

Educational institutions are not like the residential users that commonly surround them. One educational enterprise connection may support 1,000 or more users (students, teachers and administrative staff) and be capable of generating as much traffic as 1,000 homes. Educational institutions also have different needs to residential consumers – with an increased emphasis on symmetry and high bandwidth, a more demanding requirement for low latency and significant peaks in demand. Connectivity *between* institutions is important, in addition to connectivity to external sources such as the Internet. Educational needs require access to capacity at a reasonable price to enable permanent networks to be created and to cater for the expected increase in demand which is likely to result as innovations are more widely adopted.

Against this background, AICTEC notes the consultation paper recognises that large greenfield estates often include commercial centres, schools, medical clinics and other community facilities which may need higher grade services than residential customers. Schools will require scalable broadband that is not unduly constrained by network architecture and/or technology, and which can support bandwidth intensive educational applications. While residential users may be likely to be connected through a point-to-multipoint architecture, school sites should be provisioned with point to point fibre connections in order to give maximum flexibility in supplying bandwidth at whatever level is required. It will be important that school sites are connected by appropriate network architecture.

AICTEC considers that any approach which is taken towards setting minimum infrastructure requirements for greenfields estates should give appropriate consideration to the special needs of educational institutions. As noted above, educational institutions are not like surrounding residential users. They need to be served by fibre connections and technology suitable for their needs, and maximum flexibility will be achieved if they are connected via dedicated fibre cores, not split using PON technology.

AICTEC also supports the comments in the discussion paper that the network should also include backhaul to an appropriate point of interconnection to the wider telecommunications network to provide for any-to-any connectivity and to support effective retail level competition.

AICTEC recognises that the Government's new greenfield fibre policy together with any changes to the existing telecommunications competition and consumer regulatory frameworks in the transition to the NBN, has tremendous potential to assist in delivering the Australian governments' broad social and economic policy agendas for education and productivity.

Yours sincerely

A handwritten signature in black ink, appearing to read "E. Arthur".

Dr Evan Arthur
Chair, AICTEC

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