

3 March 2011

Attention: Andrew McGowan  
Inquiry Secretary - House of Representatives Standing Committee on Infrastructure  
and Communications  
Via email: [ic.reps@aph.gov.au](mailto:ic.reps@aph.gov.au)

**Re: New Inquiry into the National Broadband Network**

Dear Mr McGowan,

RMIT is pleased to provide feedback on the *New Inquiry into the National Broadband Network*.

RMIT welcomes the Government's commitment to strengthening Australia's capability through the development of National Broadband Network infrastructure.

The development of National Broadband Network infrastructure requires considerable investment over a sustained period to produce tangible outcomes and deliver social and economic benefits to the Australian community. As an applied university or technology and design, RMIT strongly believes that NBN infrastructure can be leveraged to create better social and economic outcomes, particularly in the areas of education, health and research.

The NBN is a transformative technology; an enabler. It will enable Australia to be a key player in a globalised telecommunications revolution; just as the steam engine and railways were enablers for the industrial revolution; and water, electricity and sewerage services were enablers for the creation of today's cities. However, without sufficient funding and uptake by the community, these outcomes cannot be realised.

Thank you for the opportunity to provide comment to the New Inquiry. A copy of RMIT's response to the Inquiry is attached to this letter. If you have any questions about RMIT's feedback please contact me.

Yours sincerely

**Allan Ballagh**  
Acting Vice-Chancellor and President

**ATTACHMENT 1**  
**RMIT COMMENTS ON**  
***NEW INQUIRY INTO THE NATIONAL BROADBAND NETWORK***

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***General Comments***

The development of National Broadband Network (NBN) infrastructure requires considerable investment over a sustained period to produce tangible outcomes and deliver social and economic benefits to the Australian community. RMIT believes that NBN infrastructure can be leveraged to create better social and economic outcomes, particularly in the areas of education, health and research.

The NBN is an enabler. It will enable Australia to be a key player in a globalised telecommunications revolution; just as the steam engine and railways were enablers for the industrial revolution; and water, electricity and sewerage services were enablers for the creation of today's cities. However, without sufficient funding and uptake by the community, these outcomes cannot be realised. It is therefore paramount that NBN enabled functionality is adequately funded, including by Government. In order to maximise access and utilisation of NBN infrastructure by all Australians, RMIT recommends that the Committee and the Government give further consideration to the following matters:

- Policies around the provision of financial incentives such as Medicare rebates for online consultations and financial incentives for medical specialists; and
- Mandated access policies for retail service providers to support low socio-economic status (SES) uptake of NBN related services.

***Point A: Delivery of Government Services and Programs – Skills Development***

As Australia's largest dual sector tertiary institution, RMIT is committed to ensuring its graduates are "Industry Ready" through appropriate skills development at the VET, undergraduate and postgraduate levels.

RMIT strongly supports the Government's position that skills development is vital to the future prosperity of the nation. RMIT also believes that skills development is critical to the implementation of NBN infrastructure, as well as realising the potential subsequent social and economic benefits. The impact on industry during NBN infrastructure rollout will be significant for both those directly involved, and for those from where skills will be drawn. RMIT is a leading provider for fibre-optic communications installation training and strongly engaged with industry to ensure the delivery of relevant training. In support of Government programs, RMIT has a strong and ongoing engagement with major global telecommunication companies spanning the gamut of sector needs from research through training to skills and development of course content. Once the NBN rollout is complete, a new digital productivity paradigm will emerge, and key industries such as computer gaming, IT,

manufacturing, media and communications will also need access to new skills to utilise and benefit from NBN infrastructure capabilities.

***Point B: Capacity to Contribute to Achieving Health Outcomes***

RMIT recognises that NBN capabilities around reliability, connectivity, as well as data and video transmission rates are critical elements in health system reform and in achieving health outcomes to remote and rural communities. The ability to undertake remote consultation and diagnosis is particularly important given the ageing and growing population; and the commensurate escalating pressures on the health system. Quality of care and access to medical specialists should not be a function of where Australians are domiciled. Contrast the possibilities between the 1930's era "Royal Flying Doctor Service" with that of an NBN enabled Australia.

Remote and rural communities are not the only beneficiaries of NBN infrastructure. Urban intensification is a problem that Governments and communities are currently struggling with. The ability to assist people to stay in their homes longer and reduce admissions to aged care facilities and hospitals is seen as one method to address intensification issues.

RMIT is very supportive of the development of NBN infrastructure though it also realises that technical and policy challenges remain to the successful delivery of positive health outcomes. Community acceptance of remote delivery of health services will require that new applications are designed around people first with technologies embedded as invisibly as possible, rather than as a technology showcase. In addition, there should be no cost disparity between urban and rural communities nor traditional versus "online" consultations. Existing financial incentives such as Medicare rebates for online consultations and financial incentives for specialists will need consideration and Government support to ensure NBN infrastructure is widely used and therefore the broader health and community outcomes are realised.

***Point C: Improving the Educational Resources and Training Available for Teachers and Students***

As Australia's most internationalised tertiary institution, RMIT is a strong advocate of a globalised and networked teaching and learning system. Universities have been privileged to have access to broadband infrastructure through the AARNet system. This access has transformed the delivery of education services from face to face teaching and learning to remote delivery, tuition and assessment. This transformation continues. The emerging focus of education delivery is on developing more interactive models: classroom interaction, establishing remote classrooms where students can see and hear peers and teachers; and tactile immersion, where students participate in real time hands on training using models similar to pilot training in flight simulators. Contrast the possibilities between the 1950's era "School of the Air" with that of an NBN enabled Australia.

A good example of delivery of educational resources requiring NBN type infrastructure is that of the "Educational Virtual Beamline" at the Australian Synchrotron. Students can undertake experiments remotely on the physics of light (diffraction, interference etc). The students access and control synchrotron light to generate data, which is then piped to the school's laboratory for analysis. The light is real, the data is real, the student is virtual. Similarly, researchers now access and

control several other synchrotron beamlines remotely, having sent samples to the facility for mounting. The rationale is that it is cheaper to send bits than atoms.

RMIT is committed to equality of access to education. NBN infrastructure will enable equality as urban educational resources will be available across Australia for rural and regional students as well as for those who are unable to adhere to inflexible class timetables. Government programs to increase the number of Australians with bachelor level qualifications; and the participation of people in higher education from a low SES background would be more easily realised through flexible access mechanisms enabled by NBN infrastructure.

The cost of access to NBN infrastructure requires consideration by governments and education providers. It is paramount that access to the NBN is affordable to ensure improvements in educational resources and training available to teachers and students are accessible to all. Increased access to education via the NBN has the potential for greatest impact amongst those who will understand its value the least.

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***Point G: Interaction with Research and Development and Related Innovation Investments***

As an applied university, RMIT is committed to research and development and the innovation that flows from this process. Australia's geographical position has placed limitations on international collaboration with peers around the globe. Multiple time zones can enable international research teams to work on a problem around the clock. However, limited communications have made it difficult to share large data sets, to discuss technical problems and areas of contention in a timely manner. NBN infrastructure has the potential to resolve this limitation for collaboration with other NBN-enabled countries, giving Australian researchers a stronger position in global research.

A key plank in the Government's innovation agenda is the Cooperative Research Centre program. CRC's seek to benefit greatly from NBN infrastructure, as a long standing issue for CRC's has been bringing the combined expertise of geographically diverse member organisations together to innovate around industry verticals. Immersive NBN communication capabilities will enable experts from an industry vertical to adopt concurrent engineering design models to tackle bigger industry issues. CRC's are an exemplar of the issues industry faces when working across vast distances and time zones.

Another key plank in the Government's innovation agenda is the Hub and Spoke model of innovation. Here, NBN type infrastructure provides the critical link between "linked laboratories" funded through the NCRIS and Super Science initiatives. Similar infrastructure between individuals, SME, and industry laboratories has the potential to accelerate innovation through enhanced collaboration and access to new technologies. For example, NBN infrastructure will enable new prototyping methodologies and practices to be adopted by industry such as additive manufacturing where single prototypes with near-final functionality can be produced rapidly at low cost.