Submission 072
Date received: 24/02/2011

THE **Warren** CENTRE
FOR ADVANCED ENGINEERING LTD

Submission to the House of Representatives Standing Committee on Infrastructure and Communications

Inquiry into the role and potential of the National Broadband Network

Background

The Warren Centre for Advanced Engineering is an independent, industry-linked institute committed to fostering excellence and innovation in advanced engineering throughout Australia. It is a self-funding, non-profit entity operating within the Faculty of Engineering at the University of Sydney, guided by a board of directors from industry and the university.

The Warren Centre's principal objectives are to:

- stimulating the application and further development of new engineering technology
- encouraging the integration of innovation and engineering technology into the development of Australia's public policy and wealth creation
- providing independent comment and advice to government and industry on these and related issues

Further information on the Centre's activities and achievements can be found on our website www.sydney.edu.au/warrencentre http://www.warren.edu.au/

We believe that the NBN is visionary and will provide significant economic and social benefits for Australian broadband users. However, as explained we contend that the current implementation of the NBN is not exploiting to the fullest, the capabilities and resources of the Australian technology industry sector. This submission proposes a pathway to address this.

Our submission specifically addresses the following two items in the Terms of Reference:

e) Impacting economic regional growth and employment opportunities

g) Interaction with research and development and related innovation investments

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Opportunities for Australian industry from the NBN investment

Apart from the economic stimulation resulting from the broadband network availability, there will be economic benefits flowing directly from the construction phase and from broadband Information and Communications Technology (ICT) applications. However, in the absence of a proactive and comprehensive Australian industry plan that addresses ICT products for ongoing NBN upgrades and expansion over the next 5-50 years, we believe that these economic benefits to Australian industry will be sub-optimal.

The construction of the NBN is following a very aggressive timetable and is undoubtedly a major challenge for NBNCo. Building the NBN is expected to take at least ten years and possibly longer. Construction-related services and (design, build, maintain) has been estimated to employ up to 25,000 personnel over the period of the project.

In some areas, Australian industry is participating actively – for example in civil construction services and network design. Equally, it is accepted that major systems procurement from the overseas systems providers will form a large part of the NBN. For example, it is noted that NBN has already placed a $1.5 billion contract with Alcatel-Lucent for major systems.

However, we believe that Australia has a world-class advanced technology products industry sector which is not being considered or actively involved in future NBN upgrades and expansion. Australia has a strong history of high-technology electronics, wireless and optical components technologies as exemplified by existing and recent companies such as Engana (acquired by Finisar); INDX (acquired by JDSU); Photonics Technologies (acquired by Nortel); NEC Australia; Kingfisher Instruments; Silana (previously AWA MicroElectronics); Redfern Broadband Networks (acquired by Sorrento Networks Inc); Optical Systems Design; Redfern Integrated Optics; Redfern Optical Components; Redfern Fibres (Nufern); EM Clarity; and Haliplex. The above companies drew their knowledge base from new graduates and previous employees of Australian electronics based ICT companies such as AWA, DATACRAFT; JNA, JTEC, MITEC, PLESSEY, SCITEC and STC (acquired by Alcatel). Given the long-term procurement phase accompanying the NBN construction, we believe it would be feasible for existing and start-up companies such as these to ramp up their design and supply potential to provide world-competitive products and components to NBNCo, either directly or via the major equipment suppliers, with significant exports to global customers. However, we are concerned that this is unlikely to occur in the absence of a visible and proactive “product-related” industry plan.

There is no doubt that a strong and technologically competent Australian ICT product industry exists already and is potentially world-competitive. Our local industry has been built on the foundations of existing Australian government investment in advanced technologies such as photonics and CSIRO wireless/radio astronomy. It has attracted overseas as well as local investment capital and has a proven track record on innovative niche products with export success.

It has been argued that the NBN construction timetable is very compressed and a plan to achieve involvement from local industry advanced ICT components suppliers is considered to adversely affect the target construction timetable. However, the build-phase of the NBN is at least ten years, and therefore there is ample time for NBNCo to engage local suppliers and work with them to maximise the local design and supply content of the initial rollout and subsequent expansion and upgrades, consistent always with cost and quality competiveness with overseas alternatives.

Equally, it may also be argued that if the existing Australian suppliers have the right products at the right price, they are likely to succeed in winning supply contracts. This ignores the fact that the overseas systems suppliers may be expected to source sub-systems and components from their traditional international suppliers and in the absence of an Australian industry plan largely ignore the existing globally competitive Australian product industry.

Most importantly, we believe that a pro-active NBN industry plan can help create a sustainable advanced ICT technology export industry for Australia, extending well beyond the construction phase of the NBN. If the Australian industry advanced technology product sector is able to capitalise on the opportunities of the NBN and develop and strengthen over the next ten or more years, the legacy will be a continuing world-class components and module-level product industry which can become a significant global supplier to similar major broadband construction projects around the world via major equipment suppliers as product partners

Preliminary analysis by The Warren Centre indicates that if this opportunity is fostered, the potential for Australian industry is estimated to grow to additional $2.5 billion pa revenue by 2025 with a corresponding increase in technology-related jobs with a commensurate increase in Australian university graduates to fill them and this industry will keep growing.

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Recommendation

Encouraged by Senator Carr's release yesterday entitled **"Giving Australians a Fair Go"** we propose that the government:-

1. endorse, in principal, the desirability of leveraging the Australian ICT technology products industry in the initial NBN construction, future expansion and upgrades;
2. initiate a study to:
   a. Validate and scope the existing and potential capacity of the Australian industry to contribute technology elements at completive prices;
   b. Quantify the economic benefits (through both import replacement and export) which would result from greater participation from the local industry;
   c. Scope how this can be achieved whilst maintaining or improving the current NBN roll-out timetable and investment levels.

The Warren Centre ICT Committee is willing and ready to assist with this study.

Yours sincerely

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