

## BROADBAND SMART HOME PROJECT OVERVIEW



### Background

The requirement to practically demonstrate the opportunities and capabilities that the NBN will bring to the nation and regional communities like Armidale is critical to the success of the NBN roll-out. The Broadband Smart Home proposal endeavours to facilitate and develop a truly intelligent, fully integrated smart house and is seeking in-kind support to realise the current community opportunities and requirements. The project is being led by Regional Development Australia Northern Inland (RDANI) in conjunction with funding from NSW Trade and Investment, The Australian Centre for Broadband Innovation (CSIRO), TAFE New England, and the University of New England. RDANI are responsible for all project deliverables.

Major sponsors and technology vendors will collaborate with the Smart Home Integration Group to ensure seamless integration of equipment and a clear pathway to drive innovation as well as commercial and promotional outcomes. The Smart Home Integration Group has two dedicated technology specialists available to work with vendors.

The Smart Home is recognised as a standard house, without fundamental difference to visitors' own homes. It is an important aspect of the rationale of the smart house that the facility demonstrates that a smart home does not require redesign or renovation and that the equipment on display is off-the-shelf and readily available now or very soon. The home endeavours to provide strong commercial outcomes for vendor suppliers as visitors, both on-site and virtually will be able to access information on how to purchase and install products. In addition, vendors will have the home at their disposal for any demonstrations, marketing, promotion, media and other commercial activities by negotiation.

As a collaborative and partly-government funded project, the Broadband Smart Home does not seek to develop or gain ownership of any intellectual property. Any background IP which a collaborator brings to the project will remain the property of that particular collaborator.

### Current Status

Project partners have designed a facility in Armidale NSW that demonstrates the NBN opportunities available to ordinary Australian residents and businesses. The facility is called the Broadband Smart Home – "A Regional NBN Experience Centre". A website will be used to promote the NBN and the participants. It will also augment the smart home demonstrations. Virtual visitors from anywhere in the world will be able to take pre-created tours through the house, self-guide their own tour by controlling cameras and other equipment within it.

As well as the critical aspect of creating a 'touch and feel' environment, an important element of the home will be to provide a resource to value-add the broad scale sensor data generated by the house as an asset to achieve

commercial and social outcomes. This will be achieved by adding contextually sensitive ontological frameworks which allow simple query heuristics over multiple silo clusters to provide timely and relevant operational decisions to government, commercial entities, service providers and individual data owners. Ultimately this will enable the smart home team to build relevant solutions for the private sector, governments and communities.

- Demonstrate the impact the NBN can make to a typical Australian middle-sized home;
- Drive innovation that can potentially have global benefit
- Provide visitors to the house or website the information required to purchase and install the displayed products with minimal effort.
- Provide a demonstration and promotional vehicle for suppliers of products and services encouraged by the NBN;
- Attract local, tourist and virtual visitors as well as national media exposure;
- Provide access to a database of potential customers for the participants in the project;
- Explore the potential of future technology and data collaboration in a broadband setting;
- Create a replicable model broadband smart home that can be recreated in different locations; and

The different rooms of the house and sections of the yard are themed to provide a much broader experience than would be expected in any single home. However, each demonstration is relevant to home situations. Areas targeted are: e-Health, e-education, remote working, environmental sustainability, security, home automation, media, smart metering (power & water) and aged care and disability assisted living.

#### Achievements to date:

- The home was the first dwelling on mainland Australia to be connected to NBN fibre and was utilised by NBN Co for trials prior to the May 2011 launch of NBN in Armidale. As part of the NBN launch a live feed from the home was used to demonstrate the benefits of the University of New England Smart Farm initiative.
- NBN Co are also using the Smart Home to trial their fixed-wireless service.
- Local and national media exposure
- Seed funding obtained to complete base building renovations and in excess of 15 vendors are supplying equipment and services for the home.
- TAFE students engaged as part of their curriculum to undertake construction work at the home
- Neuroscience Research Australia stroke recovery trial filmed as part of a NBN Co TV campaign.
- Installation of remote vision testing equipment
- Essential Energy installation of Smart Electricity Metering
- Taggle installation of Smart Water Meter
- The University of New England (UNE) is using the home to install and demonstrate Assisted Living technology in relation to aged care and in-home support. The UNE is utilising the home for demonstration of projects and devices in an off-campus and in-home application. Utilisation of the Broadband Smart Home by UNE Staff and Students for research and teaching is being encouraged with 3<sup>rd</sup> year computer science students engaged to build applications for the home.
- In late 2011, the house was used as a base for the NBN Geek in Residence initiative ([www.nbngeeks.net](http://www.nbngeeks.net)) funded by the Australia Council for the Arts. The objective is to help Australian artists and organisations to better maximise the potential that the NBN offers: to help more Australians engage with more Australian content. The project resulted in private consultations and audits, networking sessions, and scheduled workshops leading to content creation and then exchange between two (or more) communities.
- FourRSPs (Telstra, iiNet, Internode and iPrimus) have all used the home to test their product integration.
- TAFE New England Institute are installing their EduOne equipment in the home for remote education.
- UNE staff are regularly using the home to conduct videoconferencing demonstrations to link with other NBN first and second release sites as well as overseas to the University of Irvine in California.
- The Smart Home is a key component of the UNE's 'Smarter Safer Homes' project in conjunction with CSIRO (ACBI), Spranto and Autumn Lodge Aged Care Facility Armidale

- The Smart Home is a key component of the UNE's 'Smarter Safer Homes' NBN EESS project in conjunction with CSIRO (ACBI), Neuroscience Research Australia, the University of Western Sydney, TAFE New England, ISU Solutions, Autumn Lodge Aged Care Facility Armidale, Catholic Health Care, Coffs Coast Health & Community Care, NBN Co and the DBCDE
- NICTA have committed to installing their 'Community IPTV' solution in the home.
- The NSW Department of Education and Communities will use the home to conduct specialist language courses that are not available locally.
- Residential solar energy system to be installed by Autarco.
- Winner of the Armidale Chamber of Commerce Innovation Award 2012
- ACBI (CSIRO) have committed to a sensor network project in the home.

### Summary of Roles

What?	Who?
Governance, contracts, funding administration, IP negotiation, NDAs, stakeholder engagement, sponsor/vendor management and reporting.	RDANI
Installation, integration, technical support, system architecture	Smart Home Integration Group (UNE, CSIRO, NICTA, ACBI and vendors)
Marketing and Promotion	RDANI, NBN Co, DBCDE and vendors
Website development	TAFE New England
Trials, demonstrations and exhibitors	RDANI and project/vendor partners

RDANI are currently seeking vendor partners to be involved in this project of national significance.

For further information, please contact:

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