

IT'S NEVER BEEN DONE BEFORE

Connecting the Dots Across Australia

Emerson Provides Critical Technology Support for Delivery of Broadband Service Across Australia

Access to broadband Internet connections has become a must for growing economies around the world as more and more commerce, communication and innovation occur online. Australia, long known for its highly educated and productive culture, is no exception. But the country's geography creates a challenge in keeping its population at the leading edge of online connectivity.

Australia's cities and towns are spread across a vast, rugged landmass of nearly three million square miles. With a population of 22.8 million people, Australia has one of the world's lowest population densities – about seven people per square mile on average. By comparison, the United States averages 83 people per square mile, and Japan has 873 people per square mile.

That low population density is great for people looking for room to roam in the outback, but it poses a big technical challenge when you want to efficiently and reliably connect Australia's communities to the Internet.

To address this challenge, the Australian government developed a [vision and strategy for a National Broadband Network \(NBN\)](#), with the goal of providing access to all Australians. The NBN will provide 93 percent of the homes, schools and workplaces across the country with access to optical fibre service for superfast broadband download speeds of up to 100 Megabits per second (Mbps). The remaining 7 percent will be connected via next-generation fixed wireless and satellite. The network initiative aims to put Australia at the forefront of high-speed connectivity across the globe and to enable the country to lead the development and deployment of emerging industries like telehealth, augmented reality services and digital fabrication of goods.

In 2009, the Australian government established the [National Broadband Network Company \(NBN Co\)](#) to turn the NBN vision into a reality.

It's Never Been Done Before. This nationwide network represents the largest single infrastructure project in the country's history, akin to creating a highway system virtually from scratch. At the same time, the Australian government recognized that the network needed to deliver the highest levels of reliability, cost-effectiveness and efficiency to fully address the population's needs.

NBN Co has turned to Emerson to design, supply, install and commission 10 network hubs (referred to as aggregation nodes) that will serve as the foundation for the continent-spanning network. [Emerson Network Power was selected](#) because it offers a



IT'S NEVER BEEN DONE BEFORE

unique combination of best-in-class technologies, broad service capabilities, deep industry experience and project management expertise that will enable this unprecedented network build to proceed even faster and more efficiently than initially expected.

- NBN Co looked to Emerson Network Power's expertise to customize proven technologies to match their specific needs, manage all elements of design and deployment, and deliver within firm deadlines.
- Emerson has designed a fully integrated, modular and containerized infrastructure solution for NBN's aggregation nodes that incorporates best-in-class AC and DC power, cooling, racks, and management and monitoring, as well as supporting services. Emerson's innovative [modular and containerized](#) approach allows NBN Co and Emerson to simultaneously plan, fabricate, fit out, integrate and test all 10 of the network nodes in a central location, rather than building them sequentially at each site location, which is more expensive and more prone to risk of delays. The benefits for NBN Co are: dramatically reduced deployment time, reduced cost, and greater flexibility to optimize the total project deployment.
- To meet NBN Co's need for "efficiency without compromise," Emerson Network Power's power and cooling solutions are designed to deliver power usage effectiveness measures that far exceed industry averages, putting the NBN at the forefront of efficiency.
- At the same time, Emerson power and cooling solutions support NBN Co's need for high server density to support very large traffic demands, as well as the ultra-high availability required for the network backbone carrying the country's online traffic.

Emerson's leading data center infrastructure solutions will support the initial production rollouts of the NBN as they go online this year and will enable rapid growth of the network in the years to come. Emerson estimates that deployment of the containerized solution for the network hubs enables this infrastructure to be put in service up to 50 percent faster than purpose-built sites. Additionally, the Emerson solutions are expected to deliver energy-efficiency gains of up to 30 percent over traditional power and cooling solutions.

With Emerson's technologies, Australia's National Broadband Network has a strong foundation and is well on its way to deliver a modern telecommunications system that connects its cities and towns for the benefit of all its citizens.



IT'S NEVER BEEN DONE BEFORE

Related Information

[Emerson Network Power Wins \\$100 Million Contract for Australian National Broadband Deployment](#), *October 10, 2011 news release*

[Emerson Network Power: Telecom Business Solutions](#)

[Emerson Network Power: Data Center / Networking Solutions](#)

[NBN Co: NBN explained](#) (videos)

