

Clever solutions for Smart Energy



“As for technology and business, a major barrier to IoT take-up is connectivity. Without low cost networks, the business case for connecting millions of sensors to access information just doesn’t stack up. It’s even harder when you also have to consider covering vast distances and penetrating dense areas, while minimising power usage and maximising battery life. The NNNCo Network and technology overcome these barriers.”

Geoff Lilliss,
Executive Advisor - Utilities, NNNCo

The Internet of Things (IoT) creates a fundamental shift in advanced energy production and distribution technology. It supports utilities to better leverage existing investments in infrastructure and operations. By enabling frequent metering and the ability to control devices / sensors centrally, IoT enables Energy companies and Utilities to be more agile, flexible and efficient through:

- Accurate and timely information to better manage large-scale power usage and distribution
- Improved load management
- Automatic and remote fine-tuning
- Reduced cost of meter reading
- Accessibility of usage information to consumers
- Better monitoring and management of infrastructure assets to defer capital expenditure
- Improved ability to meet the demands of national and state regulatory bodies

Smart energy needs an intelligent IoT network

A broad based network is key for IoT to operate reliably and cost effectively across multiple geographies and conditions. By providing reliable two-way communication at a low cost,

the network transforms passive assets such as meters into active assets.

NNNCo has taken the lead in Australia and implemented LoRaWAN global standard technology together with world-leading solutions and local innovations to make a national, open, cost-effective network a reality for a wide range of IoT applications.

NNNCo – Australia’s narrowband network

NNNCo is Australia’s LoRaWAN network operator, dedicated to building and operating Australia’s narrowband network for IoT. We’re working with some of the world’s leading energy and water utilities, technology providers and innovators to roll out large-scale, carrier-grade network solutions.

As Australia’s Long Range Wide Area Network (LoRaWAN) operator, our vision is to support the rapid and collaborative growth of IoT in Australia by providing an end-to-end, low-cost, reliable and secure eco-system that:

- Supports more effective operation of infrastructure and services
- Enables innovation across industries as diverse as agriculture, logistics, manufacturing and health
- Shares information that can make people’s lives safer, healthier and easier

The LoRaWAN standards for low cost, low power networks deliver immediate advantages for utilities over other communications methods. LoRaWAN standards are mature across most functions with strong, relevant capabilities including:

 <p>Long range Essential to support very large distribution areas such as utilities networks</p>	 <p>Low power Battery-powered devices with a battery life of several years</p>	 <p>Low cost Low lifetime and installation cost for devices / sensors containing the compact module from Murata</p>	 <p>Open Open standards enable the network to connect to others over time and build an ecosystem rather than a silo solution</p>
 <p>Secure Very strong privacy and security enables companies to meet the most stringent government, regulatory and customer-based guaranteed service levels</p>	 <p>Reliable A resilient Radio Frequency modulation scheme offers reliable coverage for remote locations, tall buildings and deep basements</p>	 <p>Two way - Verifies device operation - Transmits control signals to remote devices - Device configuration management - Remote update firmware</p>	<p>Not just a receiver, two way capability gives control, confidence and the capacity to upgrade</p> 

The proof is in the pilot

Pilots undertaken with energy and water utilities prove NNNCo's ability to use LoRaWAN in the field for specific, often complex, customer needs including the following functions for DREDS (Demand Response Energy Devices):

- Management of hot water load circuits;
- Unicast connection to set and manage individual DRED functions;
- Multicast to control groups of DREDS and turn DREDS on and off; and
- A physical LoRaWAN network to distribute control signals to DREDS and monitor their status.

Prototype functions in the field have confirmed the performance of LoRaWAN networks in a range of geographic circumstances; coverage information that proves the performance of technology and forecasting tools; development of devices for testing by the utilities; 15+ years battery life in devices; and reduced cost of operation compared to legacy systems.

Planning a smart energy network?

If your organisation is interested in participating, visit us at nnnco.com.au