



# Actility

## Success Story

- Utilities - Energy -



## NNNCO & ERGON ENERGY

November 2016, Queensland Australia

### Ergon Energy trials LoRaWAN in Townsville to run its network more efficiently

*The world's first group multi-cast LPWA deployment by Australia's National Narrowband Network (NNNCo)*

Ergon Energy has one of the lowest customer densities of any utility company, resulting in very long distribution lines, making load variation and management a key issue for the company. In response to load issues in the energy network, the traditional solution is to upgrade the network and increase capacity, with significant infrastructure costs.

In 2015, the utility ran an internal Innovation Challenge that Sanjeeva Athuraliya, Telecommunications Architect at Ergon Energy, won with his Load Control Wire IoT submission. Ergon was looking for a scalable solution that has the capability to go beyond the trial. The company chose NNNCo as a partner able to provide a nationwide carrier service.

### ERGON ENERGY KEY FIGURES



\$24AUD billion assets  
Australia's distributor



1<sup>st</sup> July 2016 Queensland  
Ergon and Energen



1.7 million km<sup>2</sup>  
Geographic coverage

The company chose its headquarter city Townsville (200 000 inhabitants) to trial the solution, developed with NNNCo and Actility, which will enable it to connect and control beyond substations to individual household power consumption, such as water heating. In October 2016, the company began a 6-month trial with a small number of households, where sensors and control modules are being installed on hot water circuits. If successful, LoRaWAN will roll out to other towns and regions throughout Queensland, Australia's second largest state.

without impacting customers. For instance, it may change the time that a household's hot water is heated up so that it occurs when network load is low. where needed in times of peak power demand without impacting customers.

**“I see it as a long term relationship with NNNCo; if the trial works we will roll out the network across the state.”**  
*Sanjeeva Athuraliya, Ergon Energy*

### More efficient network management with the potential to drive substantial cost savings

The solution's business benefits for Ergon Energy are:

- **Granular control and efficient management of the network**

The LPWA IoT solution will give Ergon Energy granular control to switch individual loads on and off so that they can be reduced where needed in times of peak power demand

- **Avoid unnecessary infrastructure spending**

The solution will help to control load as an alternative to increasing capacity with expensive upgrades.



## Leveraging unique LoRaWAN capabilities and ecosystem

Ergon Energy's choice of open-standard LoRaWAN technology was influenced by its ability to offer individual addressability of each end-point, multi-cast functionality for group communication and bi-directional communication.

- Long range technology is essential to support the utility's network across a very large distribution footprint, totalling 1.7 million km<sup>2</sup>.
- Open standard allows for an open and growing ecosystem, a choice of suppliers and no vendor lock-in.
- Individual addressability means that Ergon Energy can remotely configure each endpoint with unique characteristics.
- Multi-cast functionality keeps the traffic in the LoRa network manageable and ensures the solution is scalable from communicating with a few end points to thousands.
- Bi-directional communication ensures Ergon receives feedback from endpoints and can deliver control instructions to create a managed network.

“The successful implementation of end-to-end Multi-cast functionality results in a truly cost effective, robust and scalable two-way network service.”

*Rob Zagarella, NNNCo*

With this product being proven in the field with Ergon Energy, NNNCo in partnership with Actility is now in the process of repackaging the endpoint device for air conditioning DRED (Demand Response Enabling Device) control, inverter and street light monitoring and control.

