28 September 2021

Electricity Authority

Via email: distribution.feedback@ea.govt.nz

Information on power flows and hosting capacity

SmartCo was formed in 2010 by 6 Network Companies (Alpine Energy, Electricity Invercargill, Network Tasman, The Power Company, Wel Networks and Counties Power) who had the foresight to gain visibility of the low voltage assets .

SmartCo has a metering platform which enables:

- Metering Services for the Traders
- Network Management
- Radio Mesh IOT Network for Network Automation

Our vision "To unleash the potential of Networks", has driven a collaborative approach to create common tools accessing data which provides the necessary information to provide end consumers a better service.

SmartCo with the investment of its Networks has developed a scalable platform which can process large volumes of metering data to actional insights. Collaboration to date has provided several tools which give insight to make effective investment decisions , reduce carbon footprint and improve reliability, quality, and safety for its owner networks.

These tools continue to develop and will provide effective steps towards the electricity industry part in reducing emissions and support of well manged distributed energy resources.

SmartCo is widening its approach outside of its core networks and will be providing a tool to for Networks throughout NZ .

Access to meter data and functionality is key as these devices are deployed throughout all networks and offer a cost-effective solution. Data provided directly from the Metering Equipment Provider (MEP) is necessary to ensure this is cost effective and that the data is timely.

SmartCo is working with Traders and MEPs to obtain access to this data.

Existing data sets available through the Electricity Meters (30min Interval and Event) provide a good base for networks to start on this journey. To note, it is also necessary for real time meter interaction, higher resolution of data and extended measurements fully enable electricity metering as a total solution for Distribution Energy Management (DER).

Examples of some of the services we are providing our networks

- Neutral integrity: An assessment of meter voltage events over a 3-week period where measured events suggest a high impedance or broken neutral problem.


- Transformer Over Voltage: Provides an assessment of the percentage of time each week a Distribution Transformer is operating above regulatory limits and the peak weekly voltage that is delivered. This tool has 2 years' history, earlier history is available on request.
- Transformer Under Voltage: An assessment of the percentage of time each week a Distribution Transformer is operating below regulatory limits and the minimum weekly voltage that is delivered. This tool displays 2 years rolling history, earlier history is available on request.

- Meter Logger: Ability to log down to 2min intervals voltage current power factor to assess power quality at an ICP

- Asset Load Monitor: An assessment of asset demand (GXP, Feeder, Transformer) identifying over- and under-loaded assets to improve utilisation, with a 1-year rolling history, earlier history is available on request.
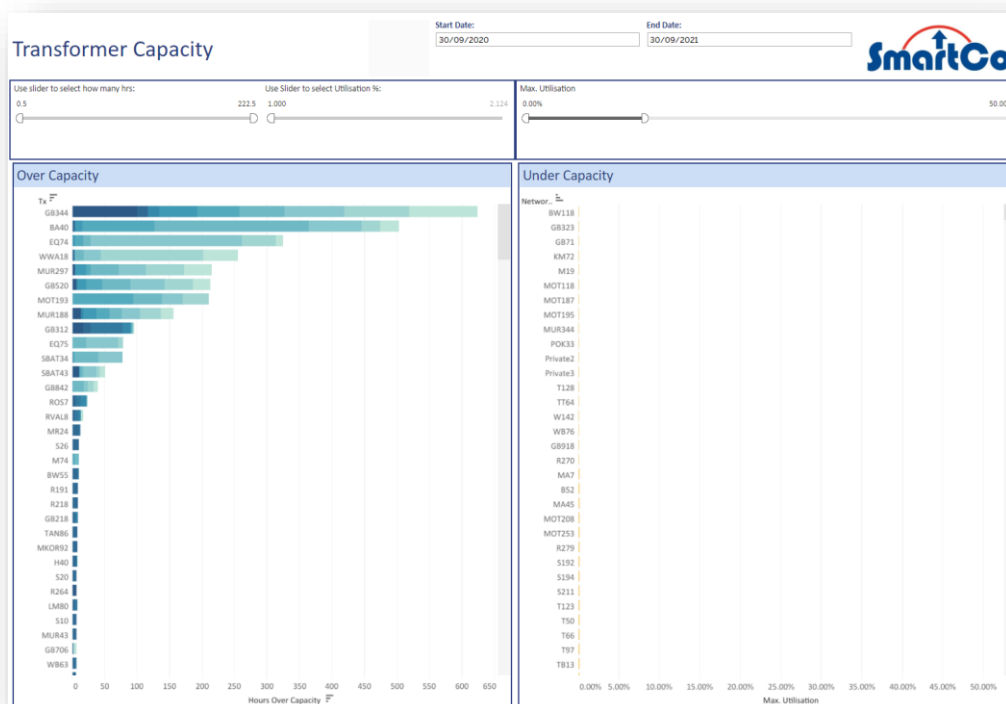
- Outage Monitor: An assessment of Loss of supply events from an ICP and ability to confirm power restored to aid fault restoration.
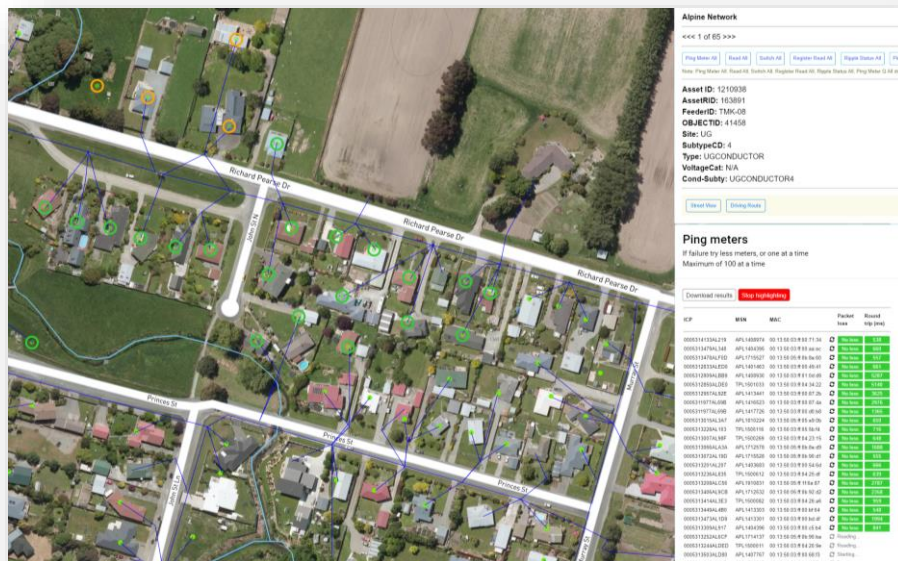
Authority questions

Have you experienced issues relating to lack of information or uneven access to information?

No , we are working through access to data from the MEP and each of the Traders , this process has been slow mainly due to our approach being cautious to ensure we meet the requirements of the Traders.

What information do you need to make more informed investment and operation decisions?

We continue to collaborate with Networks we are providing services to ensure they have the right information to make informed investment and operation decisions.   At this stage a daily feed of metering interval and event data provides a greater understanding of the Network . We are moving towards higher resolution real time information which will enable the ability to orchestrate DER and dynamic load control.

What do you think should be considered to help improve access to information?

Consideration should be given for Networks and Metering Equipment Providers to have participant relationship which enables access to data and greater input to metering configuration for their network management purposes.

Kind Regards

Guy Marquet
CEO SmartCo