

Why we need a digitalised data system for a smart, flexible power system

To efficiently deliver a smart, flexible and affordable power system for Aotearoa New Zealand we must take a [strategic approach to managing the data system](#). We need to move beyond incremental changes and **build a 'digital nervous system'** that is inclusive, open, secure and adaptive.

Our current data system stifles progress

People are changing how and when they use power. The data system needs to evolve to provide more granular physical and pricing data (and information) to an increasing number of power system users – people, flex coordinators, retailers, network operators, generators etc. – for them to make efficient choices which support a secure, reliable and cost-effective power system. Currently, much of the data needed for decisions about flexibility is not easily accessible to users or does not exist, and the lack of standardised formats, data dictionaries and structures, increases the costs of accessing and using data. This stifles innovation and competition that will benefit households and businesses. Implementing a consumer data right for electricity and opening up availability of more network-related datasets will provide the launchpad needed to upgrade the system.

Why we need a future-fit data system

Upgrading the data system is critical for innovation and competition. By taking a more strategic approach to managing the data system, we can achieve:

- **Lower barriers to entry** - Faster access to datasets and (automated) exchanges of datasets will help innovators and new business models get to market sooner.
- **Operational efficiencies** - Increased accuracy in the data exchanged (due to automation) will reduce transaction costs, and drive innovation. For example, retailers will have to prioritise IT system investments to support automated data exchanges and they will be encouraged to digitalise their systems and find efficiencies.
- **Open access** - Expanding access to datasets to flex coordinators and other non-traditional participants will spur competition and new creative solutions.
- **Wider economic opportunities** - The ability to combine datasets, for example, local government, transport and electricity datasets, will unlock economic opportunities.
- **Robust security** - A whole-of-system and consistent approach to cyber security will ensure the network stays secure as more flexible devices are connected to the power and data systems.

The architecture for systematic access

To capture these opportunities and enable a truly flexible power system, we must concentrate on providing the architecture for systematic access to datasets and exchange of data. The electricity ecosystem needs:

- a **consistent data system architecture** for establishing and maintaining data touchpoints between the firms and entities that make up the electricity ecosystem
- **default trust frameworks** which define, implement and govern the rules underpinning accessibility (open or restricted) of each dataset across the data system and costs (public or commercial) of accessing a dataset
- a **presumption of dataset openness** supported by clear rules and criteria for requesting and incorporating new datasets into the data system as they emerge or are needed by data users.
- **standardised default data formats and (cyber) secure, automated exchange mechanisms** for all datasets in the data system.

Going forward

We do not need to reinvent the wheel. We can build on the data system already in place and use the principles governing the UK digitalisation programme as a good starting point. [Read the FlexForum Insights: A smart, flexible power system needs a digitalised data system](#) for the FlexForum perspective on the foundational features of a future-fit data system, and the six key tasks required to upgrade the data system. [Get in touch](#) to discuss the paper further.