Accelerating decarbonisation for 17 million customers in London: LAEP+ Customer Planning Portal

1,000
USERS

RIIO-ED2
REGULATORY COMPLIANCE

£13.5m
SAVINGS OVER 5 YEARS

The Customer
UK Power Networks is the largest electricity distribution network operator in the UK operating 190,338 kilometres of electricity network, 125,000 transformers and distributing 71,500GWh of electricity to 17 million customers over 29,000 square kilometres.

Challenge
UK Power Networks must accurately forecast where and when low-carbon technologies and DERs—such as electric vehicle (EV) chargers and solar photovoltaic (PV) systems—will be deployed. Without clear visibility into future energy demand, it becomes difficult to plan grid upgrades efficiently. This can result in delays for new connections, inefficient infrastructure investments, and missed opportunities for collaboration with local governments. Collecting this information through an entirely manual process from 133 municipalities would be a significant challenge.

Solution
To address these challenges, UK Power Networks implemented the LAEP+ Customer Planning Portal, a digital tool that enhances grid planning and forecasting. Now, all 133 municipalities within UKPN's service area actively use the portal serving 1,000 users and covering data for over 17 million end customers.
Using digital twins, detailed energy modeling, and granular data on buildings, transportation, and heat demand, the portal enables data-driven decision-making for local governments. This has significantly improved UK Power Networks' ability to forecast load growth, having the potential to achieve:

- £13.5million savings for consumers over 5 years
- Regulatory compliance under UK RIIO-ED2 by enabling digital collaboration with the DSO and municipalities
- Enhanced customer satisfaction through faster, more efficient planning
- Improved visibility of future network loads

> *"Through data and digital tools, we can continuously support and integrate local plans and intelligence to enhance our forecasts, ensuring we provide fit-for-purpose electricity networks that facilitates local decarbonisation.* - **Lynne McDonald, Head of Local Net Zero at UKPN** *"*

Powering faster grid connections across Ireland: LAEP+ Connections Portal

50% reduction
IN DROP OUTS BETWEEN SCREENING AND INSTALLATION

Improved
CUSTOMER SATISFACTION

The Customer
ESB Networks, Ireland's Distribution System Operator and a subsidiary of the Electricity Supply Board is responsible for managing the country's electricity distribution network. They deliver and manage the performance of an electricity network that consists of almost 160,000 km of overhead lines, 28,000 km of underground cables, over 800 high voltage substations and 2.5 million demand customers.

Challenge
The traditional process for assessing and approving new grid connections can be time-consuming and complex, requiring ESB Networks to process a high volume of applications. Many of these applications demand extensive analysis, even when some may not be feasible due to network constraints or are only speculative applications which will not progress post-quote.

Solution
Through the use of the LAEP+ Connections Portal, ESB are trialling online screening to enable ESB Networks customers — such as EV charge point operators and municipalities—to assess their demand connection against available network capacity, estimated timelines, and cost projections. By providing this self-service capability, the solution allows applicants to refine their connection requests in advance, reducing the number of applications requiring extensive manual processing. Over time, this approach has the potential to reduce the number of drop-outs between initial screening and quote acceptance by 50% and significantly reduce wait-times for initial screening.

> *"ESB Networks is implementing self-serve, data driven solutions to enhance our capacity screening service and make it more convenient for our customers to interact with us.* - **Ciaran Geaney, Innovation Manager, ESB Networks** *"*