

“To extract hundreds of millions of data flows and transform them into meaningful information our customers would buy and use to enhance their energy delivery processes, you have to do a lot of work. Pentaho makes it easier.”

Dan Hopkinson  
Head of Network and EMI Services  
ElectraLink



## CASE STUDY

# ElectraLink Powers the United Kingdom's Energy Market Using End-to-End Data Integration and Business Analytics of Hitachi Vantara's Pentaho Platform

**Challenge:** Enormous data volumes and cumbersome, expensive and labor-intensive process to extract and manipulate data sets for customers.

**Solution:** Single data integration platform and lean data management process to streamline data extraction and standardize data sets provided to customers.

**Outcome:** Resources available to develop new, innovative data services to respond to changing market dynamics and customer needs.



**INDUSTRY**  
Energy

**SOLUTIONS**  
Pentaho Data Integration  
Pentaho Business Analytics

## The Challenge

### Massive Data Volumes, Manually Extracted and Manipulated

At the heart of U.K.'s energy industry is ElectraLink and its proprietary Data Transfer Service, a messaging and communications network to which more than 250 gas and electricity companies are connected. Every time a customer changes energy suppliers, or a new smart meter is installed, data is transferred over this network. It handles more than 130GB of data a month.

It's about to handle much more. Nearly 300,000 smart meters are being installed each month as part of a government mandated program. By 2020, the U.K. will have more than 28 million smart meters. This massive program is leading to a 25% increase, year over year, in data traveling across ElectraLink's Data Transfer Service network.

ElectraLink has amassed a treasure trove of energy market information. But

it must comply with data access and usage restrictions. For example, energy suppliers have full access to their own data, but they can only access another supplier's data as an aggregated and anonymized view.

ElectraLink provides these data services as a commercial offering. While energy data is structured and well defined, it's complex and the volumes are enormous.

The company was relying on a cumbersome, expensive and labor-intensive process to run ad-hoc queries that tended to be modified for each application. It needed a lean data management process to streamline data extraction and standardize the data sets provided to customers.

## The Solution

### Data From Multiple Sources Integrated on Single Platform

ElectraLink turned to Pentaho Data Integration and Pentaho Business

## Outcomes

- Hundreds of millions of data flows automatically extracted and transformed into meaningful information.
- Lean team now focused on developing new data services to enhance energy delivery processes.
- Less time wasted on cumbersome manual data manipulation.

Analytics from Hitachi Vantara to integrate data from multiple sources in a single platform and make data available for analytics in near real time.

The company's IT architecture includes Amazon Web Services (AWS) as its secure cloud services platform, a Vertica data warehouse, Egnyte for its FTP portal, and Pentaho Data Integration for process automation and orchestration to create the data sets. ElectraLink implemented Pentaho Data Integration in late 2016, but the company has plans to exploit more of the platform's capabilities and dashboards as part of its product delivery model.

ElectraLink uploads data sets to a secure FTP portal, where customers can access the data. The entire Data Transfer Service network is refreshed nightly. "We spin up our environments, run the queries, package up the data, and place it back out on the FTP servers for the customers to get access to it," explains Dan Hopkinson, ElectraLink's head of Network and EMI services. "We keep our environments up for the minimum amount of time to reduce costs. Cost control, automation, streamlining and lean processes are incredibly important to us."

ElectraLink also relies on Pentaho Data Integration to create a business glossary of processes and data flows for both electricity and gas data, the first dual-fuel catalog to support the energy industry. Pentaho's automation capabilities are instrumental in keeping the business glossary up to date. "What I'm keen on is to link the catalog to Pentaho so we don't have to change code every time there is a process change," says Hopkinson.

## The Outcome

### New, Innovative Data Services Brought to Market

Pentaho Data Integration is used to manage all the alerting and automation,



which gives Hopkinson's small four-person team time to concentrate on developing new data services and enhancing existing data sets for sale to customers on a subscription or volumetric basis. "We have a range of products, from very straightforward data feeds where we're effectively just providing data on request, to much more complex analytics products," explains Hopkinson.

For instance, one of the products ElectraLink has developed is a data set that exposes all the energy generation on the U.K.'s distribution network. That's all the small wind farms, solar farms, small generators connected directly to the distribution grid, as opposed to the transmission grid. ElectraLink has been able to identify the embedded generators based on consumption data that flows across the network through pattern matching. "ElectraLink is the only entity that has this comprehensive view of energy generation across the whole of Great Britain. It's a complex and incredibly valuable data set," says Hopkinson.

The next stage of the ElectraLink's journey is to leverage Pentaho's automation capabilities to provide API access to the data. This approach will allow third parties to access data, such as price comparisons, in real time. It will streamline the change-of-supplier process and enable more customers to switch energy suppliers more easily.

## Hitachi Vantara Streamlines ElectraLink's Data Delivery

ElectraLink provides network communications and code governance services crucial to the 250 companies in the U.K.'s energy market. Its Data Transfer Service, a messaging and communications network, safely and securely transfers massive data volumes each month, including data to support the U.K.'s smart metering program. Hitachi Vantara's Pentaho solutions provide the data integration platform and lean data management process that streamline data extraction and standardize the data sets ElectraLink provides to its customers.

## About Hitachi Vantara

Your data is the key to new revenue, better customer experiences and lower costs. With technology and expertise, Hitachi Vantara drives data to meaningful outcomes.

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