

Success story

Shift Desk Transformation: the journey so far!

Digiterre partnered with one of the UK's largest integrated energy companies with operations spanning electricity generation and the sale of natural gas and electricity to over 5 million business and residential customers throughout the UK. The business produces 25% of the country's electricity from its generating estate of nuclear power stations, wind farms, coal and assets and is the largest producer of lowcarbon electricity in the UK.

The Shift Desk is the name given to a business-critical trading operation. It works 24 hours a day, 7 days a week to deliver maximum wholesale energy market value from their supply and generation assets and to ensure that customer demand is met.

Programme goals

The main goals of the overall transformation programme were to:

- Give full visibility and access to the data needed to manage trading positions in real time.
- Enable shift traders to focus entirely on adding value for the business by capturing all opportunities for assets and customers.
- Remove all manual operations and automate all transactional aspects of processes to better deliver analyst efforts towards improved commercial performance.

Business Challenges

However, in the era of decarbonisation, one of the biggest challenges facing the business has been around keeping pace with the rapid changes and greater volatility underway in the energy markets, driven by market dynamics such as recent gas price rises, the impact of the pandemic and changes to demand, as well as the Russian invasion of Ukraine pushing up oil prices.

Furthermore, the technology to support Shift Desk trading and operations had evolved organically over the last 18 years and consisted of over 80 apps working on processes that were neither robust nor standardised. It required Shift Traders to spend over 40% of their time manually operating the system, reducing the time spent on their core purpose of identifying opportunities and implementing optimal trading strategies.

The key challenge was to modernise, streamline and automate the Shift Desk to overcome these issues and to enable the business to consolidate its lead in the power trading industry and to capitalise on the changing market dynamics. Digiterre worked as a technology partner who could help envision a way forward and to put in place the foundation for a multi-year transformation program for the Shift Desk. After a rigorous, highly competitive RFP-led selection process, Digiterre was selected to work with the business to achieve these goals.

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Technical Approach to Discovery and Early Phase Delivery

Digiterre was engaged specifically to undertake the Discovery phase and to deliver a Minimum Viable Product (MVP) to crystallize the scope, scale, and direction of this technology-led transformation programme. This involved the following key steps:

- Design and delivery of the Discovery Phase, designed to scope out the high-level requirements in consultation with the primary stakeholders, agree the key programme priorities and boundaries, and to define the scope and scale of the MVP.
- This was followed by the development of a user-centric designed solution using the Axiom technology platform to show the trading Net Open Position (NOP). Axiom is a distributed cloud application with a web front-end, hosted in AWS.
- Digiterre brought to the project a more agile way of working than had previously been practiced within the business, together with a more iterative approach to overall solution development, involving the creation of a prototype that could be continuously tested as well as rapidly shaped and customised.
- The team built a front-end UI to visualise the Net Open Position (NOP) of trading, making it easy for business users to input into key development and design decisions. The technologies used included React with a functional approach, Redux for state management, a GraphQL AppSync client for pull and push data access and a selection of open-source controls for more advanced scenarios like charting and layout management.
- AWS cloud provided features included TypeScript with a functional-first approach, a Polyglot mindset, Serverless Framework with AWS Lambda using NodeJS on Linux and AWS EventBridge, SNS, RDS for backend integration and data persistence. Full DevOps leverages Terraform, GitHub and AWS CodeBuild and CodeDeploy.

The Journey So Far

The following objectives have been successfully delivered:

- Priorities set for a multi-year transformation
- Rapid mobilisation around the need to improve Shift Desk technology
- Key technology challenges have been identified
- MVP delivered into the hands of business users
- Key technical knowledge has been transferred to internal Trading technical resources
- Internal capability has been created as a foundation to future growth and scale

Benefits

- **Rapid onboarding.** Through wholesale energy market domain knowledge and experience of its data structures and processes.
- **A pragmatic Agile approach to delivery.** The Agile scrum methodology enabled the combined team to work efficiently and collaboratively at pace, to build and implement a product solution optimally tailored to the organisation's specific requirements.
- **Solving the data integration problem.** Through extensive experience and skills in simplifying and integrating highly complex energy sector data systems delivered a scalable, future-proofed solution.
- **Skills sharing and collaboration.** Worked together, adopting new methods, techniques and styles.