zenitech

Case Study

Integrated operating portal
for electricity trading business processes

Customer
Oil and Energy Company

Location
Hungary

Industry
Energy

![Zenitech logo]

Integrated operating portal for electricity trading business processes

Zenitech's customer, a leading oil and integrated energy company, is an international organisation, operating in more than 30 countries.

As an electricity trader, it serves more than 1900 consumption points with an annual value of over €120 million (before 2022 price hikes).

Building a future-proof system

The oil company had been using a custom-developed system for the past 15 years to handle Distribution System Operator (DSO) interfaces and internal processes.

But the system was becoming cumbersome. The original development team was unavailable, and fixing (or further developing) the system wasn't feasible. As a result, employees had to handle many processes manually using macros in Excel. Support for transmission system operator (TSO) nomination process handling had also been discontinued. Furthermore, compliance with ENTSO-E standardized processes requires machine-to-machine nomination process handling.

After a thorough risk analysis, the oil company decided to create a technologically modernized system that could support electricity trading by creating efficient processes. One that came with long-term developer support could be built and improved on as and when needed and that integrated all electrical trading business processes in one place.

Creating an agile solution

The oil company partnered with Zenitech to establish a team of developers. One of teams' first projects was to create a new system for electricity trading business processes.

After completing the core functionality, the developer team looked at how the system was performing and made changes needed to keep up with market demands.

The project requirements were precise and clear, which made it possible for the developer team to apply an iterative waterfall project management process. Existing tools needed replacing with major components specified, implemented, and tested. As the team added one component to the system, they could work on the specification for the next component while also testing the previous component's functionality.

What the system does

Supporting business functions

The new system now fully supports the day-to-day process of electricity trading.

These processes include managing 20 large internal sites, with engineers making weekly and daily schedules for consumption, 800 smaller internal points of delivery where traders estimate consumption and 800 smaller external points of delivery for fifty partners (where consumption is estimated in yearly contracts, which the client's traders fine-tune).

Transmission System Operators, need a daily schedule of electricity consumption, production, trading and cross-border deals to keep the system working efficiently.

Flexible data management architecture

Different business processes need different levels – and sometimes different dimensions of aggregation – of points of delivery (POD), so a flexible POD structure was implemented.

Supporting long- and short-term planning

Using the portfolio management module, the system calculates the expected margin of trading activity for the rest of that year and the next one (as partner contracts are usually renegotiated yearly).

Retail contracts are worked out using expected consumption, prices and fees for partners. In short, data collected by the system goes into calculating the margins that help drive long-term planning.

For a more short-term outlook, the scheduling module collects all estimations of consumption for the next day and week. This supports traders in planning energy exchange trading and making short-term bilateral deals.

Invoice management

The system keeps track of receivables and checks every hour for invoice status changes and downloads. As a result, employees can keep track of invoice details and consumption information much more efficiently.

A modernised system that drives business efficiency

The new system has been in use since December 2020 and was delivered on time and within budget.

The system has made it easier to work with traders (as business users) and limited the number of repetitive tasks they need to carry out.

It's also provided a much more reliable reporting system and has the potential to be continually developed to allow for more streamlining and efficiencies in the future.

Technology highlights:

Iterative waterfall process: major components were specified, implemented, and tested. While the implementation of a component was still in progress, the specification of the following component started, and testing the previous component was still ongoing. The iterative waterfall model provides feedback paths from every phase to its preceding phases.

User Stories and Tasks, created from Functional Specification, were managed and tracked on Agile Sprint Board in Azure DevOps. Development was enhanced according to git-flow source code management with Pull Request and CI supported by Azure DevOps CI Pipelines.

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