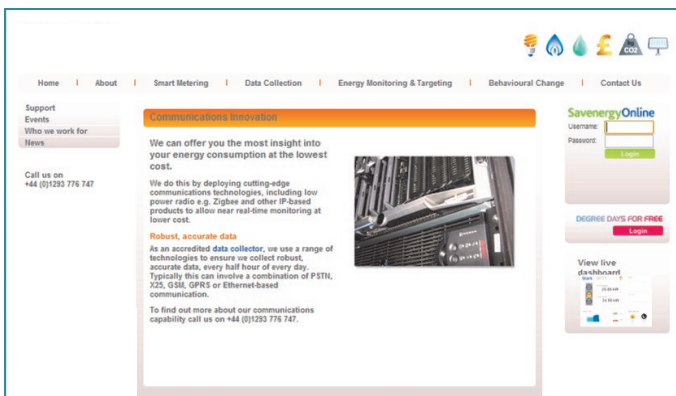




Helping Major Organisations Realise Substantial Savings in Energy Consumption

Ballard Chalmers is an integral partner to one of the UK's leading developers of energy information systems. These systems are used by major energy consumers around the world including include British Airways, Total UK, Rolls Royce, and Bentley and the company also works with all the UK's major electricity suppliers.

A co-founder of Ballard Chalmers, Geoff Ballard has worked with the company for over 20 years in the development of powerful Monitoring and Targeting (aM&T) software systems that allow organisations to collect and analyse half hourly data from utility meters, data loggers and building management systems, helping to drive down energy expenditure and reduce CO2 emission.



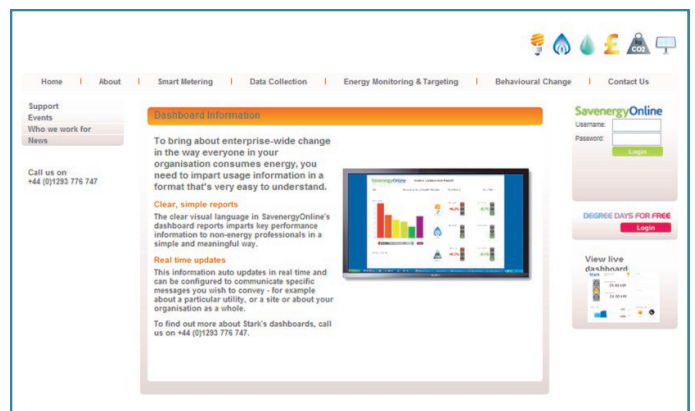
Highly specialised technologies

This technology is used to deliver an automatic meter reading and data collection service that is available for electricity, gas and water - both for main and sub-meters, and for half hourly and non half hourly sites. The opening up of the UK electricity market encouraged distributors and suppliers to compete and implement new technologies and services to allow for the more effective monitoring, management and waste reduction. But in order to provide this service, the company needed to develop highly complex middleware that could take the collected meter data and send it to a range of third parties including customers, energy suppliers, energy distributors and other industry participants.

“One the face of it, this may seem like a fairly simple requirement,” explained Geoff Ballard. “But the process is extremely complex and is carefully controlled by extremely stringent regulations and by the internal processes of energy suppliers and distributors.”

Efficient energy management and control

In the commercial and industrial markets, particularly those organisations that consume more than 1 megawatt per hour, meter readings are taken at ½ hourly intervals. There are 110,000 of these organisations in the UK, accounting for approximately 40% of the country's total energy consumption and, with the tariffs changing on a half-hourly basis, smart use of energy can make a real difference to costs and environmental impact. This, combined with the fact that larger organisations need to be able to identify periods of energy waste (such as overnight) means that more and more organisations are looking to manage and control their energy consumption far more effectively.

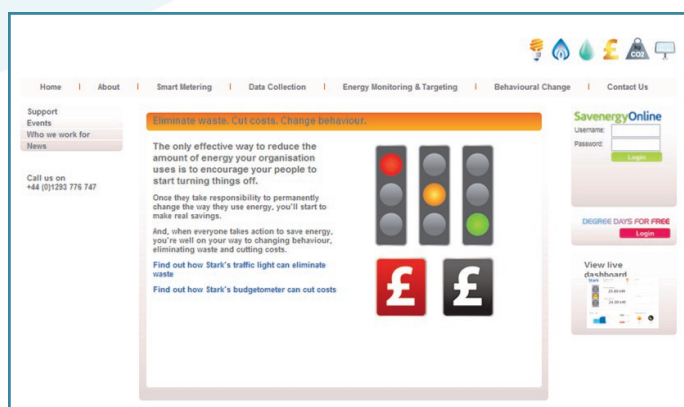


Before offering these services, it needed to develop the necessary data collection and aggregation middleware and have it approved and accredited by the industry regulators. In turn this means that the middleware must communicate effectively and efficiently with the supplier's own systems and adhere to its specific processes and methodologies. Recognising that the development of these solutions was critical to the business of the organisation, the client approached Ballard Chalmers.

With a deep understanding of the regulatory mandates and the complexities that would be faced in interfacing the technologies to 3rd party processes, Ballard Chalmers is one of the very few specialist organisations in this country able to develop the highly intricate middleware specified.



Working closely with the internal specialist staff, a team of Ballard Chalmers experts began the development of the middleware – a project that took some 18 months and involved some highly sophisticated and leading-edge design and development techniques. The system was developed in ASP.NET, C# and Oracle PL/SQL and the data collection and monitoring system is developed in Visual C++ and supports both Oracle and SQL Server databases.



Astonishing savings

Information can be made available to clients via a web interface, with reports and data delivery being customised to the precise requirements of the client. Automatic exception reporting, for example, alerts managers if the consumption figures for a site deviate from the expected profile, allowing appropriate steps to be taken. The same data can be made available to energy suppliers, distributors and other industry participants for a variety of uses including billing and infrastructure monitoring.

The service delivers a large number of benefits including the elimination of estimated bills, reduced administration costs, cuts in energy waste, reduced CO2 emissions and the ability to procure energy at lower rates.

Technology

- ASP.NET,
- C#
- Oracle PL/SQL

A major development project

“This was a major development project that required close interaction with the company’s internal team, external bodies and industry participants,” commented Geoff Ballard. “Their main business is in providing organisations with the information they need to achieve reductions in energy consumption, particularly during periods of inactivity such as evenings and public holidays.”

The development of the middleware application has now been completed although, as with all complex development projects, it is subject to constant enhancement and innovation due to changing regulations and the increased requirements from the ever-growing user-base.

At daily intervals, the service communicates with each meter, obtains a reading for each half hour of consumption and delivers this to the recipients – usually in a daily report. The company is responsible for hundreds of thousands of items of data each day, with 48 readings taken from each meter every night from thousands of customers.

Ballard Chalmers continues to work in close partnership as an outsource software development supplier to this expert company in the energy sector.