

Powering an engaging,  
user-friendly digital  
experience

## **ElectraNet**

**Empired helps create ElectraNet's cutting edge battery performance monitoring website.**

ElectraNet delivers safe, affordable and reliable solutions to power homes, businesses, and the economy. A critical part of the electricity supply chain, ElectraNet's transmission network safely transports electricity over long distances to metropolitan, regional, and remote areas. It specialises in asset, project, and contract management. ElectraNet's clients include power generators, South Australia's electricity distributor, SA Power Networks, and large directly-connected clients.

### **Project funding included portal requirement**

ElectraNet is experimenting with a 30-megawatt large-scale battery at the Dalrymple substation in South Australia. The aim is to demonstrate how energy storage via batteries can strengthen the grid and improve reliability for the lower Yorke Peninsula. The project is jointly funded by the Australian Renewable Energy Agency (ARENA). ElectraNet will lease the battery to AGL, who will operate it to provide competitive market services.

As a condition of the funding from ARENA, ElectraNet was required to establish a publicly-available portal that provides real-time information about the battery and its performance. While this condition aligned closely with ElectraNet's user-centred thinking, the mechanics of creating the portal proved to be more of a challenge than ElectraNet originally anticipated. The business did not have the internal resources and capability to build the portal.

However, since the portal was a key requirement tied to the project's funding, ElectraNet needed to find a way to create it within a short timeframe to meet the project's objectives.



### **Presenting the data was key**

ElectraNet worked with internal procurement to award this work to Empired directly based on the existing relationship and other project work that was being completed.

Steve Sturm, Applications and Solutions Manager, Networks and IT Delivery, ElectraNet, said, "We looked at some live dashboard examples in the industry to get an idea of how to approach this project. A key challenge was that the portal needed to present information that could be equally well understood by members of the public as well as by researchers and engineers. They needed to drill down into the data to get a comprehensive view of the battery's performance. Therefore, one of the first things the team had to do was figure out how to present the data to make it incredibly user-friendly."

The requirements also included knowledge-sharing functionality so that people from various government agencies and industry participants interested in the project could learn from this project. Ensuring that information could be transmitted and stored securely formed part of the brief.

Steve Sturm said, "The glossy part of the project was the battery performance portal and that's where ElectraNet needed the most help. Working alongside ElectraNet's in-house designer they helped deliver a portal that would showcase ElectraNet as a smart, efficient, professional, cutting-edge brand."

## A short timeframe proved no obstacle

With a short timeframe to get the portal up and running, Empired and ElectraNet established a multidiscipline, agile team that could focus on everything from designing and coding the website to figuring out how to get the data from the battery's SCADA system to display in the portal.

It also required strong project management to drive the project according to tight deadlines and bring in the right people with the right skills at the right time. Critical to the portal's success was the collaborative design thinking approach brought to the project from the outset. This saw the project team, ElectraNet and Empired, bring design and technology together to deliver a truly user-focused solution.

The process started with stakeholder engagement from day one through a series of workshops focused on vision alignment, empathy mapping, team ideation, and creation. The aim was to understand the personas that needed to be addressed through the project, including how to make it easy and frictionless for them to use the portal effectively. It was also important to understand the high-priority user journeys and map the technology that could deliver the required services. Data needed to be delivered from the battery's SCADA system to the portal lightning fast to support the highly-responsive user experience required.

Stakeholders included not just the ElectraNet team, but the various participants interested in the project, e.g. ARENA, Government agencies, universities and industry participants. Each of these stakeholders wanted to see the portal as it was being built and provide input along the way to ensure the user experience and quality of the data was extremely high.

The solution Empired devised involved connecting the battery's SCADA system to the Microsoft Azure platform and to Episerver, a content management system which sits on top of Azure. All the data comes directly from the battery to the portal and is refreshed every four seconds, delivering the real-time statistics required to all stakeholders.

The information available on the portal includes high-level performance data and users can select indicators from multiple points in the battery and drill down to get more detailed information as required. They can choose different indicator combinations to review, then compare those against other combinations or against each other over time.

Users will be able to look back up to two years to identify historical trends or events. Showing the history as well as the live panels is important for knowledge sharing purposes.

Furthermore, the portal includes a knowledge sharing tab which hosts static content that provides further information about the battery itself and the project.

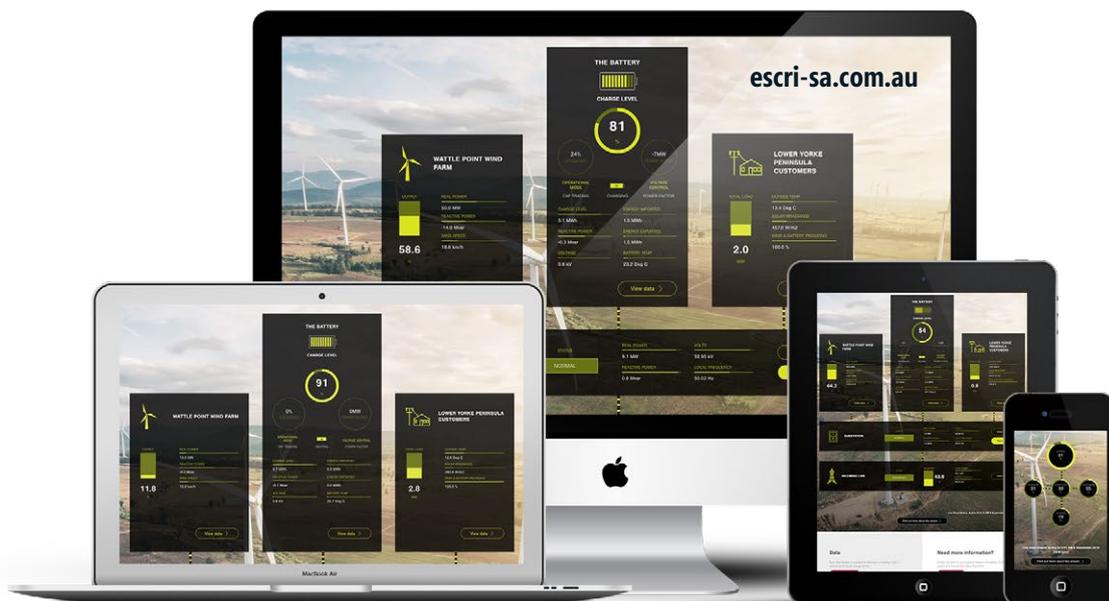
By focusing on users rather than the technology, the project team could develop simple, intuitive user experience workflows that guided the user through what would otherwise have been a complex process.

Steve Sturm said, "With multiple stakeholders interested in learning about this project, it was important we provided visibility into the project and the battery's performance.

"Simultaneously, the portal is aligned with ElectraNet's corporate brand with clear co-branding applied while keeping the portal simple and clean, and meeting industry and compliance standards."

## Security and control were non-negotiable

In order to protect a number of commercial aspects of the project, security was a key concern when developing the portal. It was essential to prevent the data transmission from becoming a potential entry point into ElectraNet's corporate network where malicious actors could, potentially, access critical operational systems.



Steve Sturm said, "The platform sits in Azure and is protected by a firewall so that people can only see the data in the portal but not access it directly. None of the data that presents on the portal is directly connected to the SCADA, so it can't be compromised."

Empired developed the solution to put ElectraNet in control as much as possible, despite the technical complexity of the solution. For example, using the Episerver content management solution means ElectraNet can upload content to the knowledge sharing section without working through Empired.

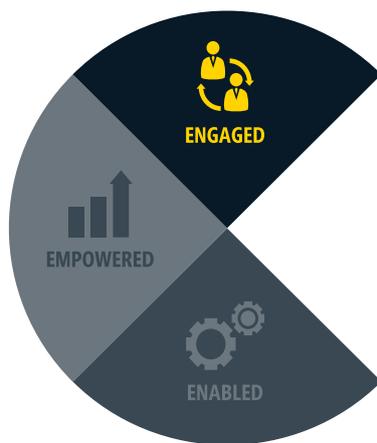
The result is a platform that ElectraNet can continue to use in the future for other, similar projects.

Steve Sturm said, "ElectraNet has about a hundred substations across South Australia. Previously, to report performance data to regulatory authorities, we sent manually-created spreadsheets. This platform will let us provide that data in real-time without having to create cumbersome reports."

"The solution is attractive and intelligent, which was what we required. It showcases the collaboration of work we've done on this project and it presents ElectraNet in a highly-professional light, which was important to the company. The user experience is first class and the information being provided ticks all of the boxes according to the funding contract."

### Working with Empired

Steve Sturm said, "Time was very much a factor as we had less than six months to complete the project. ElectraNet's established relationship with Empired ensured we worked collaboratively and in an agile manner to pick up on potential issues and solve them early, avoiding any significant delays to the project."



Customer engagement, acquisition & retention.

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### Steve Sturm

Applications & Solutions Manager,  
Networks & IT Delivery ElectraNet

## SNAPSHOT

ElectraNet needed to design a live dashboard so members of the public, researchers, and industry participants could monitor the performance of its battery project in real time without compromising security. Empired developed a solution that used Microsoft Azure to facilitate the data transfer, resulting in an engaging, user-friendly and highly-professional portal that delivered according to the project's requirements. The project was completed in less than six months.

- ElectraNet needed to build a portal to serve up real-time data
- The portal needed to be easy to use regardless of experience or knowledge
- Empired created an Azure-based solution that serves up the data in four-second blocks without compromising security
- The result is an engaging, user-friendly and professional portal
- A collaborative approach brought ElectraNet's design and technology together to create a truly user-focused solution

**For more information contact us today:**

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