



Customer	Western Power Distribution (WPD)
Size of project	£5.8m (\$7.5m)
Start date	April 2016
End date	October 2019

In this current project, EA Technology is working with the UK distribution utility, Western Power Distribution, to study the impact that clusters of electric vehicles will have on the electricity network. The growth of Electric Vehicles (EV) presents a new challenge for the UK's electricity transmission and distribution network operators (DNOs). As groups of neighbors acquire EVs, localized clustering is likely to have a great impact on electricity networks.

Electric Nation is a regulator funded project that has built on from the findings of the My Electric Avenue and Smart EV projects. The Electric Nation project will assess the impact of EV growth on the network while reviewing smart charging capabilities and customer acceptance of managed EV charging systems. The project aims to provide local electricity network operators with the tools to ensure that their networks can cope with the challenge of increasing EV ownership, while minimizing electric system upgrades.

EA Technology has built the Network Assessment Tool (NAT) which provides utilities with a software tool that will predict which parts of their network are likely to be affected by Plug in Vehicles (PIV) or Vehicle to Grid (V2G) uptake. The tool identifies the level of penetration that would cause issues on the Low Voltage network, triggering reinforcements.

Mitigating the need for network reinforcements through smart charging opportunities will reduce costs and accelerate EV ownership.

EA Technology has played a pivotal role in the successes of Electric Nation through managing the project and trials, including testing smart charging algorithms and maintaining participant engagement. This is through active communication and dissemination activities such as website management and supporting participant recruitment.

Electric Nation has recruited 673 plug-in hybrid and full electric vehicle drivers into the trial, each equipped with a smart charger at their home. This enables the project to record observations and draw conclusions relating to driver attributes, charging behaviors and acceptance of smart charging. For example, reviewing charging times shows the most common time for charging to begin on weekdays was between 6 and 7 PM, until the time of use-based reward system was introduced. Then it changed to 10 – 11 PM, when the cheaper rate was in place.

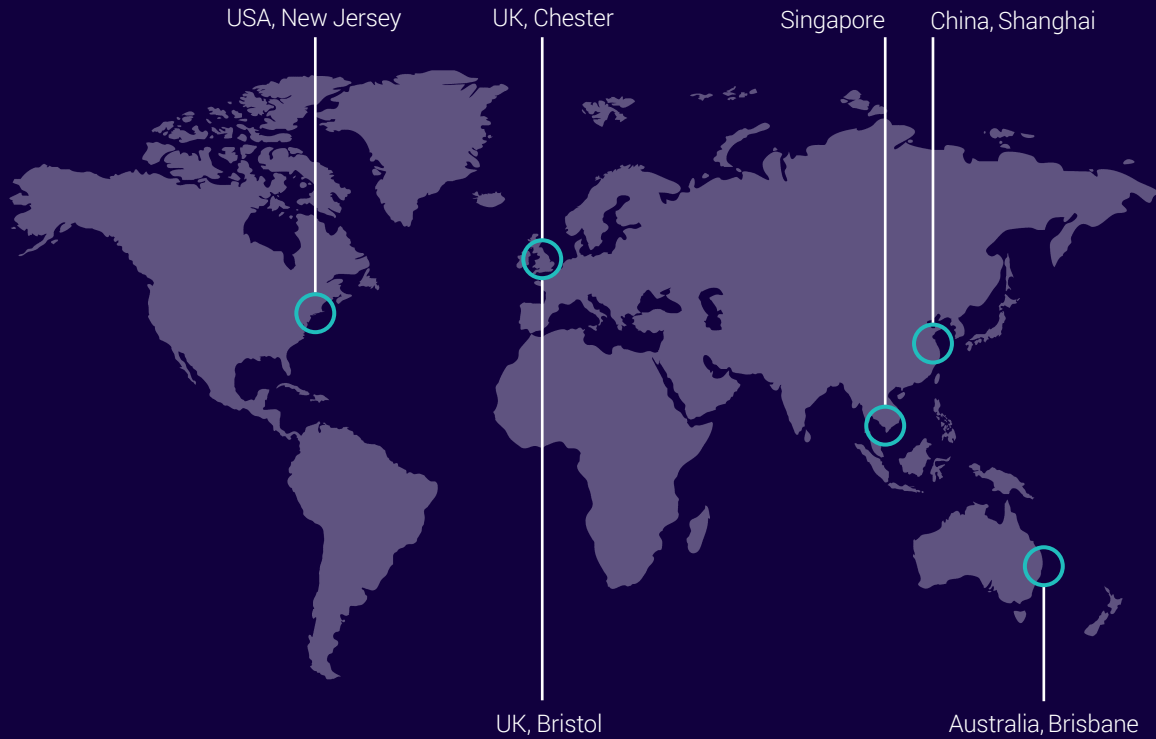
EA Technology is leading the data analysis from the Electric Nation trials and reporting the project findings, arming utilities with the necessary information and tools to prepare for the dramatic increase in EV acceptance.

Project Partners:

- WPD
- EA Technology
- DriveElectric
- Lucy Electric
- TRL

Global Footprint

At EA Technology we specialize in asset management solutions for owners and operators of power network assets.



Founded in 1966 we have over 50 years' experience in the industry and 6 regional offices around the world to support our global customer base.

We work with a lot of our clients on a long-term basis to help them safeguard their power networks.

We advise our clients on strategy and implementation of a range of technology solutions to manage power assets, delivering maximum life and minimize cost.



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