

## (I<sup>2</sup>EV) My Electric Avenue

### Month 30 Independent Review Response

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*The 'My Electric Avenue' project is the public identity for the Low Carbon Networks Fund Tier 2 project "I<sup>2</sup>EV."  
The formal title "I<sup>2</sup>EV" is used for contractual and Ofgem reporting purposes.*

Project leads



Project partners



My Electric Avenue has received support from Ofgem through the Low Carbon Networks (LCN) Fund.

**Version Tracking**

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**Final Approval**

Date	Version	EA Technology authorisation by	SEPD authorisation by
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## 1 Introduction

### 1.1 Purpose

The purpose of this document is to provide a response to the 30 month review of the I<sup>2</sup>EV (My Electric Avenue) project that has been completed by the independent consulting company appointed for this task, Ricardo Ltd.

### 1.2 Background

Ricardo is responsible for completing regular independent reviews of the I<sup>2</sup>EV (My Electric Avenue) project. As stated in the Project Direction [Ref. 1] the Successful Delivery Reward Criterion (SDRC) for the independent review process are as follows:

Successful Delivery Reward Criteria	Evidence
<p>9.4 An assessment of how the DNO and other interested parties can ensure independent validation of a third party's Solution throughout a project, and upon completion.</p> <p><b>Related learning:</b></p> <p>Learning outcome C1.3.2 - how are the project and results validated?</p> <p><b>Related Task:</b> 9 - Project recommendations and implementation</p> <p><b>Related commercial aims:</b> Under 2.2 the commercial aims are to:  - Demonstrate delivery of a low carbon network project by a non-DNO on behalf of a DNO (see 'commercial innovation delivery framework' on page 10)</p>	<p>9.4.1 The provision of 6 monthly independent reviews of the project and technology with specific inclusion of improvements and adaptations to working practices incorporated by the project team following the previous independent review.</p> <p>(a) Produce 6 monthly report (highlighting strengths and improvement areas) to be tabled at steering group meetings.</p> <p>(b) Produce response to 6 monthly report, detailing improvements planned by Project Steering Group, as a result of the review.</p> <p><b>Achieved by months 7, 13, 19, 25, 31, and 36.</b></p> <p><b>July 2013, January &amp; July 2014, January, July &amp; December 2015.</b></p>

**Table 1: SDRC for the Independent Review process**

The 30 month independent review report completed by Ricardo meets the SDRC evidence requirement 9.4.1 (a). This report meets the SDRC evidence requirement 9.4.1 (b) as outlined in the table above.

### 1.3 Document structure

The structure of this document is as follows:

- Section 2: Month 30 independent Review Executive Summary;
- Section 3: Response form EA Technology; and
- Section 4: Response from Scottish and Southern Electricity Power Distribution (SSEPD)

## 2 Independent Review Executive Summary

The My Electric Avenue project is trialling a new technology, called Esprit, for managing the supply of electricity to electric vehicles connected to a local distribution network. This project, funded by Ofgem’s Tier 2 Low Carbon Network (LCN) Fund, is led by EA Technology (Third Party Lead Supplier), with project partners Scottish and Southern Energy Power Distribution Limited (SSEPD) (the host Distribution Network Operator), Northern Powergrid, Nissan, Fleetdrive Electric and Zero Carbon Futures. Further support is provided via subcontractors, which include the University of Manchester, De Montfort University, Ricardo UK Ltd, Automotive Comms, and Creative Concern.

This report is the fifth of the periodic 6-monthly Independent Reviews. It covers the Reviewers overall assessment of the project so far, and provides recommendations on specific improvements and adaptations to working practices to be incorporated by the project team.

The reporting period is 1 January 2015 to 30 June 2015, principally involving:

- Technical Trial – Installation of the Esprit Monitoring Controller at Lyndhurst; continuation of data collection, analysis and visualisation; seeking to resolve further issues with the Esprit technology; further questionnaires, interviews and focus groups with the Technical Trial participants; delivery of SDRC 9.7.1 on an assessment of Esprit integration; and further network modelling analysis
- Social Trial – Continuation of data collection from Nissan CARWINGS system; and continuation of issuing and collecting questionnaires from Social Trial participants
- Project Management – Ongoing effective project management and coordination of project partner activities; continuing to respond to requests for further information from Ofgem regarding the Change Request

The review is based upon key documents delivered to Ricardo prior to or for the purpose of the review, and has been augmented with formal and informal discussions during project meetings and conference calls with EA Technology.

### Overall assessment of project so far

What is the Reviewers’ overall assessment of the project so far?	Good
Have the key objectives for the period been achieved?	Yes
Has the project made satisfactory progress towards meeting the overall project objectives?	Yes
Has each Task made satisfactory progress against the Plan of Works?	Yes
Has the project management been performed as required?	Yes
Has the collaboration between project partners and sub-contractors been effective?	Yes
Is there evidence of underperforming project partners or sub-contracts, lack of commitment or change in interest?	No
Have the project partners adequately publicised the project to raise awareness of the project with the general public?	Yes
Have the project partners adequately disseminated results and learning from the project?	Yes

During this reporting period the roll-out of the Esprit technology for the Technical Trial was completed with the final installation of a pole-mounted Esprit Monitoring Controller at Lyndhurst.

Esprit “curtailment mode” has been observed in all Technical Trial clusters. The data gathered shows when this curtailment has impacted on EV charging.

Some Technical Trial participants have contacted the MEA team when charging curtailment has impacted their lives negatively. Participants in the Your Homes Newcastle cluster have been particularly vocal. Such interaction with the Technical Trial participants has prompted further investigation, experimentation and analysis, providing more learning about the Esprit technology.

Data collection, transfer, storage and checking has been improved during this reporting period. Weekly automated data checks and data visualisation tools have helped the team quickly identify issues with data collection or the Esprit technology. This has enabled the team to respond promptly to issues, such as installing DIN Rail monitoring for phase current data or upgrading the Esprit software.

Key risks for the next reporting period include:

- Errors in data analysis lead to incorrect results and conclusions
- Some Technical Trial participants fail to respond to correspondence from the MEA team regarding decommissioning of Esprit technology
- Ofgem continue to delay the decision regarding Change Request to Project Direction, preventing the MEA project team from utilising all the project funds

### **Highlighted Strengths**

Good teamwork and management of customer relationships continue to be key strengths of the My Electric Avenue team. Preparation for decommissioning is at an advanced stage. The plans show the project team is applying learning from the previous customer engagement activities.

Dissemination of project learning continues to be strong. Two more documents have been added to the “Top 10 Tips” series published on the project website, covering tips for data monitoring and tips for database management. Webinars are a good method for disseminating results to targeted audiences. Two webinars have been held so far, with two more planned in the next reporting period. A recording of the webinar by the University of Manchester is available on the project website.

Automated weekly data checks of the raw data collected from the Technical and Social Trials has enabled the MEA project team to identify gaps in the collected data and highlighted issues to be resolved. For example, a new issue regarding obtaining data from Nissan CARWINGS system has been identified during this reporting period. If the vehicle does not have a mobile phone signal at the time of uploading the data, the data is lost as it is not transferred to Nissan’s central server. This could have implications for Nissan and for future technology demonstration projects reliant on data from the vehicle.

### **Recommendations**

The Reviewers recommend the following areas for improvement in the next reporting period:

1. Ensure appropriate peer review processes are followed in all activities related to handling and analysing the data from the Technical and Social Trials
2. Prepare a contingency plan for the decommissioning process
3. Ofgem must make a decision regarding the Change Request to the Project Direction by 31 August 2015 to ensure the MEA team has sufficient time remaining in the project to utilise the remaining project funds

The Reviewers also made recommendations that are relevant to the next phase of development of the Esprit technology, or to future technology trial projects

1. Review and revise the Esprit logic, incorporating learning from the project

2. Maintain a “Technology Watch” on the development of plug-in vehicles and EV charging points
3. In future technology trial projects, include a “requirements capture” activity for data analysis, data collection and data storage, and define the Quality Plan for the project’s data software tools

### 3 Response from EA Technology

EA Technology is pleased that the independent review undertaken by Ricardo 30 months into the I<sup>2</sup>EV (My Electric Avenue) project has highlighted the continued strong project management and teamwork amongst the project partners and suppliers. The team is also delighted that the review commented on the depth of learning provided in the SDRC 9.7.1 deliverable and the continued success in dissemination.

Improvements and further work on data handling and verification have also been highlighted in the latest review. The team acknowledges that further improvements could still be made in this area, and agrees with the recommendation that activities on Task 5 should have started earlier in the project. However deployment of technology (notably Intelligent Control Boxes) incurred significant delays to planned activities, including those in Task 5.

The list below outlines the responses and actions EA Technology will take following the recommendations made by Ricardo.

**1. Ensure appropriate peer review processes are followed in all activities related to handling and analysing the data from the Technical and Social Trials**

The MEA team will ensure project deliverables undergo peer reviews from EA Technology staff outside of the MEA team prior to publication.

**2. Prepare a contingency plan for the decommissioning process**

The MEA team have begun drafting documentation to support a contingency plan. This work will continue and is expected to be completed in time for decommissioning.

**3. Ofgem must make a decision regarding the Change Request to the Project Direction by 31 August 2015 to ensure the MEA team has sufficient time remaining in the project to utilise the remaining project funds**

The MEA team will continue to request updates from SSEPD on progress with regards to the Change Request.

**The Reviewers also made recommendations that are relevant to the next phase of development of the Esprit technology, or to future technology trial projects**

The team agree with the recommendations, our response to each is listed below.

**1. Review and revise the Esprit logic, incorporating learning from the project**

The team agree with the recommendations. All project learning will be collated at the end of the project to support internal decisions regarding future development of Esprit. This recommendation will be implemented if Esprit is determined to be commercially viable based on outputs from the project.

**2. Maintain a “Technology Watch” on the development of plug-in vehicles and EV charging points**

The team agree with the recommendation and intend to monitor development in these areas to inform and support internal decisions regarding the future development of Esprit. However, this is out of scope for the project.

**3. In future technology trial projects, include a “requirements capture” activity for data analysis, data collection and data storage, and define the Quality Plan for the project’s data software tools**

The MEA team agree with the recommendation and will implement in future trial projects.

## **4 Response from SSEPD**

Scottish and Southern Energy Power Distribution (SSEPD) has reviewed the fifth independent review by Ricardo and is pleased that the successful delivery of the project to date has been recognised in their overall assessment.

It has been encouraging to see the continued effective management of customers, partners/subcontractors and project activities as the project has continued to collect data whilst moving into the crucial analysis phase.

It has also been reassuring to see Esprit curtailing EV charging in all clusters, providing invaluable data and evidence for the analysis to support the upcoming SDRCs on the technology’s performance and potential use in future. There have still been issues with the technology, however, and concerns were raised over the impact to data collection as a result of the deterioration of communications across clusters. EA Technology has continued to work with the necessary teams to try and identify causes and implement solutions, whilst keeping us briefed on the situation. Whilst it has been frustrating, we are pleased that data validation processes have been implemented and steps continue to be taken to improve communications, which were successful. Confirmation was also received that it will not impact the academic outputs which was a key concern.

As the project draws to a close we agree with the risks identified for the final reporting period and are confident in EA Technology’s ability to adopt the recommendations to mitigate these risks.

It should be noted that on 8<sup>th</sup> July 2015 Ofgem finally approved the Change Request, which removes the final key risk Ricardo have identified and will have a significant positive impact on the project’s depth of analysis in the coming months. This will be reported on formally in the next reporting period’s reports and review.

The additional recommendations for the next phase of the technology’s development/future technology trial projects are seen as prudent steps to facilitate the successful development and adoption of Esprit, and the importance of the robust planning for future data capture and analysis.