

I²EV (My Electric Avenue)

6th Project Six Monthly Progress Report

Project Number	SSET205
DNO	Southern Electric Power Distribution Ltd
Project Lead	EA Technology
Reporting Period	July 2015 – December 2015

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The 'My Electric Avenue' project is the public identity for the Low Carbon Network (LCN) Fund Tier 2 project "I²EV". The formal title "I²EV" is used for contractual and Ofgem reporting purpose.

Project leads



Project partners



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

Version History

Date	Version	Author/s	Notes	Reference documents
06/05/2015	0.1 - 0.4	TB		Customer Engagement Plan
08/12/15	0.6	RH	Review and SEPD input	Project Risk Register
11/12/15	1.0	TB	Implementing comments from SEPD	Project Direction
14/12/15	1.1	RH	Edits following data assurance review	SDRCs: 9.2 & 9.3, 9.4, 9.6, 9.7 & 9.8

Final Approval

Date	Version	EA Technology authorisation by:	SEPD authorisation by:
14/12/15	1.1	Dr Duncan Yellen	Alex Howison

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Executive summary

This report details progress of the project towards the deliverables in the reporting period July 2015 – December 2015. The Project has made excellent progress towards the planned learning over this reporting period; managing the outputs generated by academic suppliers and feeding into the Project SDRCs, all of which have now been delivered.

Consequently, across the Project, documents have been published relating to all SDRCs covering:

- Learning from the experience of a third party leading a Tier 2 bid including recommendations.
- Learning following a review of the contract established between SEPD and EA Technology.
- An updated contractual template for future projects planned to be managed in a similar manner to My Electric Avenue.
- An assessment, based on direct experience, of how a third party can effectively manage delivery on innovative projects with a DNO and whether this allows DNOs to take on more innovation projects.
- A framework has been created to enable update suggestions to SSE policies and / or procedures.
- An assessment from the participating DNO of the level of effort expended on Project Management of the My Electric Avenue Project.
- An Independent Assessment of the My Electric Avenue Project.
- Learning relating to the effective recruitment of participants to Low Carbon Network Fund trials.
- An assessment of the public acceptance to Demand Side Response of EVs using 'Esprit type' technology.
- An assessment of the most appropriate integration of the Technology for different applications and suitable cycle times.
- An assessment of the additional headroom an 'Esprit type' solution could be expected to yield, considering the different network types.
- Additional learning which has been generated relating to the use of Power Line Communications (PLC) following a detailed analysis of the effectiveness of the PLC within the Project.

All equipment installed by the Project as part of the Esprit technology has been decommissioned. The electric vehicle charging points installed for the Technical Trial participants have been retained by all Participants bar two who requested the unit be removed.

Risks

As the Project is nearing completion, with decommissioning complete, there are few risks remaining open with the key ones that remain outlined below.

There are no risks related to recruitment, procurement or installation elements of the Project.

Other risks

A risk arose in the final reporting period relating to the Rolec charging points installed by SSEC for the domestic Technical Trial Participants. Specifically, the Residual-Current Circuit Breaker with Overcurrent protection (RCBO) within the charging point experienced a fault resulting in overheating of the component in three properties. The component in all three situations was replaced by SSEC as soon as it was identified, but following subsequent investigations it was determined that in the interest of safety, all remaining Rolec branded RCBOs across the Project should be removed.

Learning Section

Summary of key learning outcomes delivered in the period

The learning produced in the reporting period spans the Commercial, Technical and Social elements of the Project. The learning outcomes are detailed in section 5.1 with key learning points covered below.

It is important to note that these results are in the context of 3.5kW charging of a 24 kWh battery. The EV industry has progressed significantly since the Project's inception, with increased charging rates and battery capacities available as standard by many manufacturers. My Electric Avenue has categorised the behaviour of a large number of domestic users but additional work will be required as the technology evolves.

Commercial learning

The use of a trust third party, EA Technology, to deliver the My Electric Avenue project enabled SEPD to focus resources on delivery of other innovation projects. During the bid development process the effort anticipated for SEPD to deliver the Project was significantly lower than would have been necessary had the Project been run by SEPD directly. Subsequently, the actual effort required was approximately 20% lower than anticipated, representing a significant saving.

The Independent Review of the Project provided excellent input to the Project processes, analysis and reporting, supporting continuous improvements throughout the Project lifecycle. Furthermore, the neutral perspective of the Reviewers allowed for valuable recommendations encompassing technical, commercial and governance aspects of the Project.

Technical learning

The Esprit technology has demonstrated its capability to curtail EV charging for the purposes of LV network protection through more than 7,000 charging curtailment events. As peak EV charging demand has been found to coincide with the traditional residential evening peak, these curtailment events, predominantly occurred across this period.

As a consequence of these peaks coinciding, the After-Diversity-Maximum Demand (ADMD) for domestic properties with EV chargers is approximately 2kW; double the conventional residential demand.

Charging of EVs has the potential to cause both thermal and voltage problems with 32% of LV feeders in GB susceptible to increasing penetrations. Esprit has been shown, through the use of Transform™ modelling, to be capable of increasing thermal headroom by up to 46% with a voltage headroom equivalent to an additional 10% of EV customers.

The Transform™ model demonstrated that a potential benefit of £2.2 billion by 2047 could be realised through the use of Esprit in preference to conventional reinforcement.

Social learning

Most participants experiencing curtailment of charging were either unaware of the curtailment occurring, or were not affected by it. The implementation of Esprit was found to be acceptable to the majority of Project participants with the degree of acceptability unrelated to whether curtailment was actually implemented.

Overview of the overall approach to capturing and disseminating learning

The My Electric Avenue team continues to record non-deliverable specific learning in a central register; this will be used to inform the final Close-Down Report. The Project remains active in sharing learning across both the electricity distribution and automotive industries. The Project website will be updated at Project completion to perform the role of a central repository of all Project deliverables and outputs.

Main external activities to disseminate the learning

Learning continues to be shared via project presentations, press releases, newsletters, social media and the project's 'Top Ten Tips' series. The latest Top Ten Tips on Managing EV Uptake was published in this review period and is available on the project website. The project has also prepared a Project overview video presentation for the participants; this will remain available via the Project website after the close of the Project.

A Project Finale event was held on 3rd December 2015 with a target audience spanning Government agencies, the electricity industry and the automotive sector. Over 100 delegates attended the event, with six media contacts present at the pre-event briefing.

The project will also have issued three press releases in this period covering the Northern Automotive Alliance Innovation Award for the My Electric Avenue and Esprit technology, a response to an article on EVs in The Sun newspaper, and the finale event – covering the project learning and overall results. All press releases went to 500 automotive sector media contacts via Newspress, along with 238 energy/utility/environment/automotive sector media contacts (this list has been thoroughly cleaned and no bounce backs are received when used).

Twitter and LinkedIn continue to be used for maximum effect, with regular retweets achieved by OLEV, SSEPD Innovation and others.

Plans are being developed to provide specific dissemination sessions to the DNOs not participating in the Project, with the intention of providing these sessions in the period leading up to publication of the Close-Down Report.

Internal dissemination activities

Internal dissemination has continued through team meetings, internal social networking platforms and LinkedIn groups.

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1. Project manager's report

The My Electric Avenue Project has progressed against planned outputs, delivering all scheduled SDRCs on or ahead of schedule whilst also delivering additional learning not anticipated during Project conception. The key achievements for this reporting period are:

- Completed and submitted SDRC 9.2.2
- Completed and submitted SDRC 9.2.3
- Completed and submitted SDRC 9.3.1
- Completed and submitted SDRC 9.3.2
- Completed and submitted SDRC 9.3.3
- Completed and submitted SDRC 9.4.1 – Month 30 Independent Review Response
- Completed and submitted SDRC 9.4.1 – Month 36 Independent Review Response
- Completed and submitted SDRC 9.6.1
- Completed and submitted SDRC 9.8.1
- Completed and submitted SDRC 9.8.2
- Decommissioned Monitor Controllers from Technical Trial Substations
- Decommissioned Intelligent Control Boxes from Technical Trial Participants' properties
- Detailed analysis of the Esprit system communication data, generating additional learning relating to the effectiveness of Power-Line-Carrier Communications and factors affecting its use
- Continued dissemination of the Project's outputs across multiple venues and events
- Beginning work on the Final Close-Down Report

* please refer to Table 0-1: SDRC Overview for details of each SDRC

The Project is expected to be completed on budget and schedule.

The development of SDRCs 9.6 and 9.8 required the completion of data capture relating to the operation of the technology, effectiveness of communications and acceptance of curtailment on the trial participants. Analysis of this data was completed within the period, with the outcomes detailed in the appropriate reports.

All trial equipment installed as part of the Project has been successfully decommissioned. In all but a two cases, the trial participants have opted to retain their charging points with the intent to extend their current EV lease or acquire another EV in the future. For the avoidance of doubt, the retained charging points are no longer controllable by Esprit, or any other similar technology without modification.

Due to the completion of data analysis and decommissioning of the equipment, all previously identified risks relating to these areas have been closed during this reporting period. A new issue was identified during the reporting period with three charging points provided by Rolec for the Technical Trial participants. Following investigation, the issue was found to have the potential to affect all Rolec charging points and in the interest of participant safety, the Project has rectified the issue. Details of this can be found in section 3.4.

Dissemination of the Project achievements and deliverables has been implemented to ensure Project coverage encompasses both the Energy and Automotive Sectors. The effectiveness of this campaign, both in providing content that has ensured continued interest in the Project, and the range of parties receiving each publication has been exceptional; evidenced by the breadth of delegates at the Project Finale Event in London on December 3rd, 2015. Attendees at this Finale

event include delegates from all UK DNOs, automobile and charging point manufacturers, Government agencies, universities, research groups, and consultancy firms.

All submitted reports are available on the Project website; this website will remain live after completion of the Project with the raw, anonymised data made available to enable further research to continue.

After completion of this reporting period, the core Project team will be working on the Close-Down report in collaboration with SEPD.

2. Consistency with full submission

The project is consistent with the full submission and the project will deliver the intended learning outcomes.

3. Risk & Issue Management

A risk register was developed for the Project during the bid development process. This document was subsequently adopted by the delivery team as a key management tool for the Project to track and manage risks, mitigations and contingency.

In this section of the report, we focus on key risks identified in the last Project Progress Report, detailing the current status and any additional risks of particular significance that have arisen in the reporting period. The full risk register, detailing all open risks at the time of the report being issued is located in Appendix I.

It is noted that there are no risks open relating to recruitment, procurement or installation of equipment at this stage in the project. All work concerning these elements is complete and consequently any associated risks have been avoided or managed. Key risks identified in the previous reporting period and new risks / issues raised in the current period are covered below.

3.1 Communications

3.1.1 Data collection – ICBs

During the past reporting period it was confirmed that the ICBs had communicated sufficiently to provide a strong dataset of customer monitoring and charging point curtailment. The equipment has now been successfully decommissioned and removed from the LV network and participant properties; consequently this risk is closed.

3.2 Change Request

3.2.1 Acceptance of Project Direction Change Request

Ofgem's approval of the 'Change Request to the Project Direction' in July 2015 enabled closure of this risk.

3.3 Vehicle data

3.3.1 CARWINGS data collection

Due to the operational characteristics of the CARWINGS system, if any vehicle does not have a useable data connection when the internal memory is full, the stored data is erased for the next dataset. It is a certainty that this has occurred to participants over the course of the Project although it is not possible to determine to what extent. Despite this, a significant quantity of data was captured from the vehicles participating in the Project, enabling the necessary analysis to be undertaken to generate the required learning. As this learning has now been published, this risk is deemed to be closed.

3.4 Third party equipment

The charging points used by the Technical Trial Participants were installed by SSEC and sourced from a company called Rolec¹. The charging points contained a Residual-Current Circuit Breaker with Overcurrent protection (RCBO) that was found to have failed in one location due to an apparent overheating event. This unit was replaced and returned to Rolec with a request they investigate the cause but it is not believed any investigation was subsequently performed. Later, during decommissioning works, two further units were identified to have evidence of heat damage although they remained operational at that point.

These units were replaced with third party equivalent components whilst Rolec was contacted and basic tests were performed to determine if the units were still functioning and capable of providing circuit protection.

Following these tests, it was determined that the circuit protection elements remained operational in both units but the evidence of sustained overheating meant that indefinite safe operation could not be guaranteed. Consequently, in the interest of Participant safety, the decision was taken to replace the RCBOs in all charging points installed by the Project; this has been completed by SSEC.

Following the removal of all Rolec RCBOs, this risk was closed as no further risk remains that falls within the remit or authority of the My Electric Avenue Project. As responsible companies with concerns for the welfare of the public, however, SEPD and EA Technology are jointly seeking to escalate these concerns with the appropriate organisations.

3.5 Dissemination

SEPD have identified that the reports previously disseminated by the Project, whilst meeting all technical requirements with regards to quality and content, would benefit from a professional re-design. This would enhance the readability of the reports, both individually and collectively, maximising the achieved learning and dissemination.

¹ <http://www.rolecserv.com/>

4. Successful delivery reward criteria (SDRC)

4.1 SDRC Overview

The below table details the status of each SDRC outlined in the Project Direction document; additional information regarding completed and in-progress SDRCs is given below.

In summary, all SDRCs detailed in the Project Direction have been completed on or ahead of schedule.

Table 0-1: SDRC Overview

SDRC		Due	Description	Status
9.1	9.1.1	28/02/2013	The provision of a report outlining key areas of learning in the identified areas, with recommendations. The reports will be written such that they can be published in the public domain for an audience of: DNOs, Ofgem or other interested third parties who may wish to lead a LCN Fund project in collaboration with a DNO.	Complete
9.2	9.2.1	30/04/2013	Make available the initial contract template used between SEPD and EA Technology together with supporting guidance of the thinking behind key clauses. This will be made available to Ofgem and other DNOs as a starting point for use in future projects.	Complete
	9.2.2	31/10/2015	Review of the contract put in place between SEPD and EA Technology. A review of the initial contract developed in 9.2.1 focussing on what worked well, what didn't work well, and what should be done differently in the future.	Complete
	9.2.3	31/12/2015	An updated contract template taking into account learning from SDRC 9.2.2.	Complete
9.3	9.3.1	31/10/2015	Report detailing processes established and utilised throughout the project including templates of any forms (e.g. work orders for SSEC staff) and records of meetings/regular communications created as part of the process. This will include an evaluation of the collaboration between SSEPD and Northern Powergrid with a 3rd party interface.	Complete
	9.3.2	31/10/2015	A framework to enable update suggestions to SSEPD policies and/or procedures, identified during the course of the project will be provided, (e.g. A procedure detailing the necessary steps when considering a customer's request for an EV charging point).	Complete

SDRC		Due	Description	Status
	9.3.3	31/10/2015	An assessment from the participating DNO of the level of effort expended on Project Management of the I ² EV task by the staff involved in comparison to previous innovation projects.	Complete
9.4	9.4.1	31/07/2013	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.	Complete
		31/01/2014		Complete
		31/07/2014		Complete
		31/01/2015	a) Produce six monthly reports (highlighting strengths and improvement areas) to be tabled at steering group meetings.	Complete
		31/07/2015	b) Produce response to six monthly report, detailing improvements planned by Project Steering Group, because of the review.	Complete
		31/12/2015		Complete
9.5	9.5.0	28/02/2013	Customer engagement: Submission of customer engagement plan and data protection strategy for Authority approval (1 Feb 2013).	Complete
	9.5.1	30/09/2013	Sign up of 3 cluster groups.	Complete
		31/12/2013	Sign up of 5 cluster groups.	Complete
		31/03/2014	Sign up of 100 customers in at least 7 cluster groups.	Complete
		31/08/2014	Sign up of 10 cluster groups.	Complete
	9.5.2	31/08/2014	All cluster funding allocated due to successful establishment of clusters.	Complete
	9.5.3	31/08/2014	Social trials: Minimum of 100 EV drivers signed up to have their driving habits recorded (month 18 following CEP, August 2014). a) Reports presented to the monthly project meetings to capture and log progress in signing up customers to the EV trials. b) Six monthly reports to steering group on trial engagement progress.	Complete
9.6	9.6.1	31/10/2015	A report documenting the finding from the socio-economic analysis on public reaction to the technology.	Complete

SDRC		Due	Description	Status
9.7	9.7.1	30/06/2015	<p>Documentation describing:</p> <ul style="list-style-type: none"> a) Views of the OEM community of the impact (if any) that cycling of EVs (or HPs) may have on their product(s) and end of life b) Recommendations of suitable cycle times for EVs (and possibly Heat Pumps) for demand-side response c) Evidence of whether this solution would be feasible or not combining learning from SDRC 9.5 and SDRC 9.6. 	Complete
9.8	9.8.1	31/11/2015	<p>Modelling to understand additional headroom available / other network benefits from using the Technology.</p> <ul style="list-style-type: none"> a) The models will assess the percentage of thermal and voltage headroom estimates produced. b) The project will deliver an updated Solution template(s) specific to the Technology, and any updated EV charging profiles for use in the GB Smart Grid Forum modelling. 	Complete
	9.8.2	31/11/2015	<p>Potential cost savings and carbon emission savings using DECC published carbon intensity figures. If technology is unsuccessful, reasons why will be stated.</p>	Complete

5. Learning Outcomes

5.1 Key learning outcomes

5.1.1 SDRC 9.2 & 9.3 – Contractual learning & 3rd party leadership evaluation

Positive elements that worked well and warrant implementation in future projects

Clarity of the project scope and clearly defined milestones allowed all partners to know precisely what was required from the project, and by when.

Provision of Project Contingency provided the Project with the ability to respond to realised risks and changing situations whilst ‘ring-fencing’ funds for return to customers if unspent at the end of the project.

The Independent Project Review provided a neutral perspective of all elements of the project ranging from technical and commercial delivery through to Governance processes.

Using Business-As-Usual processes as far as is reasonably possible can accelerate the deployment of the project but be aware of the risk of trying to ‘force innovation’ into a pre-existing course of action where new methodologies may be required.

Adverse elements that would benefit from refinement or should be avoided where possible by future projects

Changing the scope of the Project through the introduction of additional clauses in the Project Direction resulted in project elements increasing in cost and complexity.

Where a project is awarded on a fixed price basis it is recommended that one level of capping funds is utilised, selecting the most appropriate for the size and type of project. For instance either by Ofgem categories (over the whole project), by project tasks per year, or agreed amount based on tasks completed at stage-gates.

5.1.2 SDRC 9.6 – Socio-economic analysis

Research findings suggest that the Esprit system for control of EV charging was acceptable to the majority of participants in the My Electric Avenue Technical Trial. The degree of acceptability of Esprit was not related to whether or not participants experienced curtailment of charging by Esprit.

Most of the participants in the Domestic Clusters whose charging was curtailed were either not aware of the curtailment, or were not impacted by it. In face-to-face data collection, only one participant reported a significant issue with curtailment where changes to plans were required due to insufficient charge in the vehicle.

5.1.3 SDRC 9.8 – Technical solution assessment

During the trial the Esprit technology has worked as intended and the participants have had their car charging curtailed on more than 7,000 occasions, in support of the distribution network.

The peak demand for residential EV charging has been found to coincide with the traditional residential evening peak. As a result, ADMD for households with EV chargers is approximately 2 kW; double the conventional residential demand.

This increased penetration of EVs can cause both thermal and voltage problems on LV feeders. Thermal problems typically occur ahead of voltage problems.

The results of modelling representative LV feeders have shown that 22% of LV feeders in one DNO license area will require intervention at EV penetrations of between 40% and 70%. This will occur across GB in 32% of LV feeders (312,000 circuits). Susceptible networks are typically characterised by available capacity of less than 1.5 kW per customer.

Esprit has been shown to be capable of mitigating thermal constraints in all types of residential networks, by using dynamic thresholds. This delivers thermal headroom of up to 46% at the highest levels of EV uptake.

Esprit also demonstrated additional voltage headroom equivalent to an additional 10% of customers connecting EV chargers. Furthermore, the number of non-compliant customers was reduced significantly, by up to 70% at the highest EV uptake considered. Delivery of greater voltage headroom is feasible but would require a sophisticated control system responding to customer voltage measurements.

Esprit is also technically capable of supporting significant numbers of additional EV connections on commercial networks, however the flatter load profile of these networks can result in a long period of curtailment during which minimal capacity is available to share across customers. This was found to be unacceptable to the My Electric Avenue commercial participants.

The timing of the first requirement for Esprit is very difficult to determine at a local level. An approach is proposed which can be applied across LV networks by designers in assessing whether there is a requirement and, if so, whether Esprit is appropriate.

The DNO industry smart grid reinforcement model Transform has been used to assess the likely uptake of Esprit. We find that Esprit will start to be deployed around 2021, and could be controlling up to 2 million homes by the end of ED4 (end of 2047). This corresponds to an economic benefit, compared to use of conventional reinforcement, of £2.2 billion.

My Electric Avenue has been a resounding success with the effective deployment of Esprit technology, high levels of customer engagement and delivery of the expected learning. Participants have driven over 3 million kilometres and this has saved more than 550 tons of direct CO₂ equivalent emissions compared to internal combustion engine journeys over that distance

It is important to consider these results in the context of the My Electric Avenue scope which considered 3.5 kW charging for the Nissan Leaf Mark 2 with its 24 kWh battery. As the industry moves to fast and rapid charge vehicles, with varying battery capacities, customer behaviour will undoubtedly change. In addition, the behaviour of the My Electric Avenue participants may not represent the behaviour of all customer types.

My Electric Avenue has taken an important first step in categorising the behaviour of large numbers of domestic EV users but additional work will undoubtedly be needed as this nascent technology evolves.

5.1.4 PLC Analysis

The presence of cable joints on the network was not commonly found to influence PLC communication reliability across the trials. However, in one instance (South Shields 1) the PLC communication reliability was found to have failed as a result of a cable joint on the network.

PLC communication reliability was shown to improve with an increase in the number of viable signal paths. However, the results were not comprehensive for high numbers of signal paths due to the sparsity of the networks.

There was a strong correlation between the PLC communication reliability and the load on the network. PLC communication reliability was found to reduce with increased in network load.

5.2 An overview of the Project's approach to capturing and disseminating the learning

The My Electric Avenue team continues to record non-deliverable specific learning in a central register; this will be used to inform the final Close-Down Report. The Project remains active in sharing learning across both the electricity distribution and automotive industries. The Project website will be updated at Project completion to perform the role of a central repository of all Project deliverables and outputs.

5.3 The main activities towards third parties which have been undertaken in order to disseminate externally the project learning

Item	Title	Location	Date (2015)	MEA activity	Audience	MEA message	Coverage
Event	Cenex LCV2015	Millbrook Proving Ground	9-10 Sept	Presentation NAA stand exhibitor	Low carbon vehicle sector	Latest results reveal impact of EVs on some networks	Interviewed by Robert Llewellyn Press release via Newspress and MEA media contacts Twitter LinkedIn
Event	IET	Inglewood Manor	9 Sept	Presentation	IET members	Latest results reveal impact of EVs on some networks	c. 20
Event	ENA EV	London	19 Oct	Presentation	EV sector / supply chain / OLEV / BEAMA, DNOs	Latest results reveal impact of EVs on some networks	20 stakeholders
Event	LCNI	Liverpool	24-26 Nov	Workshop presentation MEA presence on EA Technology stand	Energy sector Ofgem, DNOs DECC, OLEV	Final results – commercial and technical	c. 3,000 footfall
Event	MEA Turning	IMechE,	3 Dec	Presentation of commercial and	130 delegates spanning	Final dissemination of	Press release

Item	Title	Location	Date (2015)	MEA activity	Audience	MEA message	Coverage
	the Corner	London		technical learning	utilities, automotive, Government, trial participants, Ofgem	learning Launch of Legacy Initiative	Twitter (ongoing campaign) LinkedIn (ongoing campaign)
SDRC 9.6	Assessment of public acceptance of DSR using Esprit	N/A	End Nov	Dissemination of learning	Utilities, energy sector, Government, automotive	DSR of EVs generally accepted (remote control charging)	500 MEA contacts – email Twitter LinkedIn MEA website MEA finale event
SDRC 9.7	Assessment of Esprit Integration	N/A	End Nov	Dissemination of learning	Utilities, energy sector, Government, automotive	Assessment of integration into charging points and suitable cycle times	500 MEA contacts – email Twitter LinkedIn MEA website MEA finale event
SDRC 9.8	Manchester outputs	N/A	End Nov	Dissemination of learning	Utilities, energy sector, Government,	EV impact on network types	500 MEA contacts – email Twitter

Item	Title	Location	Date (2015)	MEA activity	Audience	MEA message	Coverage
					automotive		LinkedIn MEA website MEA finale event
Award	Northern Automotive Innovation Award	Knutsford	12 Nov	Award presentation	Automotive	Esprit innovation has delivered results through MEA project	Press release to Newspress, MEA media contacts Twitter LinkedIn
Top 10 Tips	Managing EV uptake	N/A	13 Nov	Dissemination of learning	Utilities, energy, automotive, Government	MEA offers insight into managing EV uptake and has a proven solution	MEA website Twitter LinkedIn
Meetings (various)	OLEV, SMMT, Ofgem	London	Sept-Dec	Dissemination of learning	Utilities, energy, automotive, Government		

5.4 Internal dissemination activities

5.4.1 EA Technology

EA Technology has continued to provide all staff with information relating to the My Electric Avenue Project through a staff briefing presentations and team updates.

5.4.2 Scottish & Southern Energy Power Distribution

SEPD have also continued to provide updates to staff with briefings and updates at team meetings and innovation steering board meetings.

6. Business case update

The project team remain confident that the Project learning will be achieved and there is no anticipated change to the overall cost.

7. Progress against budget

The Project remains on target to deliver all deliverables and outputs within the planned budget and timescales.

Following the approval of the Change Request in August 2015, the revised expenditure limits are considered in the below analysis.

Table 1 Project Budgetary Limits

Ofgem Categories	Category Budget (£k)	Category Expenditure (£k)	% Expenditure
Labour	222.25	156.63	76.55%
Equipment	278.63	292.547	104.99%
Contractors	3,352.15	3,309.86	93.71%
IT	2.71	2.81	103.83%
Travel & Expenses	3.00	0.0	0.00%
Payments to Users	276.63	280.62	101.44%
Contingency	400.40	310.68	77.59%
Decommissioning	26.29	24.65	93.74%
Other	7.37	0.00	0.00
Total	4,749.43	4,391.29	92.46%

8. Bank account

The bank account statement for the Project, covering the period 1st June 2015 to 30th November 2015, can be found in Appendix II.

9. Intellectual Property Rights (IPR)

9.1 Current Reporting Period

No intellectual property has been developed or registered as part of the Project during the current reporting period.

9.2 Next Reporting Period

No intellectual property will be developed as part of the Project after this reporting period.

10. Other

11. Accuracy assurance statement

The individual sections of this Project Progress Report have been prepared by the project team delivering the various areas of the project within EA Technology and collated into a single document by the Programme Manager. The document has subsequently been reviewed by the Project Director, who also holds the position of Future Networks Director for the business before sign-off for issue.

Within SSEPD, the Project Delivery Manager and Regulation Team have reviewed this document prior to final review and authorisation by the Director of Engineering.

Financial details are drawn from the SSE group-wide financial management systems and project bank account.

Prepared by:

Tim Butler	Project Manager	EA Technology
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Appendix I Risk Register

Table AI.1 Risk Register - December 2015

Risk Identification	Risk Category	Risk Details			Pre-Mitigation				Post-Mitigation				Contingency Action in Event Risk is Realised			
		Date Risk Raised	Target date for addressing risk.	Risk Details	Affected Parties	Likelihood	Severity	Overall Risk	Mitigation Measure	Cost of Mitigation	Mitigation Applied	Responsible for Risk Mitigation		Likelihood	Severity	Overall Risk
023	Unallocated	01-Jan-13	31/12/2015	Due to the nature of the project (research trials into new, experimental technology) it is reasonable to assume that risks that have not been specifically foreseen will occur. This line allows for the impact of currently unforeseen risks.	All parties	Almost Certain	High	Severe	Ensure regular updates meetings/tel eferences held between all parties to discuss adherence to the project plan and identify risks and blockers to progress of the project.	£ -	Ongoing	All parties	Almost Certain	Moderate	High	Contingency plans to be developed as specific risks and/or blockers are identified/realised.
027	Business (All)	Dec-12	31/12/2015	Interest rate risk arising from the interest expectations made by Ofgem. (Assumption made by Ofgem that project funds would accumulate interest at a rate of [Bank of England Base Rate + 2%].	SSEPD	Almost Certain	High	Severe	- SSEPD to discuss with Ofgem, ENA and other DNOs the implications and potential mitigation measures for this and all other Tier 2 bids.	£ -	Ongoing	SSEPD	Almost Certain	Moderate	High	
124	Business	Nov-15	11/12/2015	Disseminated	SSEPD	Probable	Moderate	Moderate	Source	£ -	Yes	SSEPD	Probable	Moderate	Moderate	Instruct

Risk Identification	Risk Category	Risk Details			Pre-Mitigation			Post-Mitigation				Contingency Action in Event Risk is Realised				
		Date Risk Raised	Target date for addressing risk.	Risk Details	Affected Parties	Likelihood	Severity	Overall Risk	Mitigation Measure	Cost of Mitigation	Mitigation Applied		Responsible for Risk Mitigation	Likelihood	Severity	Overall Risk
	(Client)			reports identified as requiring professional design and publication of technical reports to enhance and maximise the potential learning and dissemination that can be achieved.												Creative Concern to begin professional redesign of all Project documentation.

Appendix II Project Bank Account Statement

Bankline



Statement for account **_****** from 01/06/2015 to 30/11/2015

Short name:	SOUTHERN ELECTRIC PO	Currency:	GBP
Alias:	SOUTHERN ELECTRIC PO	Account type:	SPECIAL INT BEARING
BIC:	*****	Bank name:	NATIONAL WESTMINSTER BANK
IBAN:	*****	Bank branch:	READING MKT PLACE

Date	Narrative	Type	Debit	Credit	Ledger balance
	CLOSING BALANCE				776,425.52Cr
26/10/2015	SOUTHERN ELECTRI I2EV COSTS	EBP	8,078.86		776,425.52Cr
30/09/2015	30SEP-GRS 90790375	INT		639.87	784,504.38Cr
22/09/2015	SOUTHERN ELECTRI I2EV COSTS	EBP	78,016.11		783,864.51Cr
02/09/2015	SOUTHERN ELECTRI I2EV COSTS	EBP	174,391.14		861,880.62Cr
28/07/2015	SOUTHERN ELECTRI I2EV COSTS	EBP	128,246.49		1,036,271.76Cr
30/06/2015	30JUN-GRS 90790375	INT		836.32	1,164,518.25Cr
	OPENING BALANCE				1,163,681.93Cr
Totals			388,732.60	1,476.19	