A strategy for the use of telematics to improve the management of electric vehicle battery systems

**Funding:** EPSRC - Doctoral Training Partnership  
**Start date:** 1 October 2016 for 3.5 years  
**Supervisor:** Dr James Marco and Dr Quang Truong Dinh

**Project Overview:**  
Managing the full life-cycle of the electric vehicle (EV) battery requires the proper management of data from disparate sources. These include, but are not constrained too: supplier data, initial characterisation data, laboratory test data, usage data captured from the vehicle or grid charger, and data obtained through vehicle servicing and maintenance.

The research challenge is to optimise a framework for managing these datasets, and translating this data into information that can be used to better understand how the vehicle's battery system is performing and degrading. This new knowledge can be employed to underpin the design, calibration and deployment of new battery system control functions, and diagnostic and prognostic strategies. Areas of particular interest for this PhD research include:

- The use of vehicle telematics to further enhance and improve vehicle control systems for state of charge and state of health estimation.
- The development of data mining and data post-processing algorithms for capturing potential system faults and mitigating their occurrence.
- The creation of data management processes for delivering software online updates and calibration.

Through undertaking this project you will work within a multidisciplinary team of researchers, academics and industry engineers from Jaguar Land Rover and WMG.

**Funding:**  
This position provides a tax-free stipend of £14k plus £3k top up, per annum (for UK nationals) and all fees paid are paid for UK/EU nationals for up to 3.5 years.

**Eligibility:**  
Applicants should also have a 1st or upper 2nd class honours degree in a related subject.

This is a highly multidisciplinary research project encompassing the modelling and control of a complete electro-mechanical-chemical system. Potential candidates must also therefore be able to clearly evidence academic/industry achievement within the related fields of systems modelling, embedded systems, control engineering, system design and verification, and data processing.

**Application:**  
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