

Accelerating R&D for Embedded Systems with Advanced Hardware and Software Development Platforms

Supporting Company: Jaguar Land Rover (JLR)

Start Date: May 2015

WMG and Jaguar Land Rover are seeking a top class candidate to undertake research leading to the award of an Engineering Doctorate (EngD) from the University of Warwick as part of the WMG / JLR Research for Advanced Concept Development (RACeD) programme.

Through our Doctorate programme you will have unrivalled access to teaching excellence and industrial expertise as part of a multi-disciplinary team of automotive and human factors researchers and engineers. The EngD experience will result in a confident, well equipped individual prepared to make a difference to industry and the global marketplace.

This opportunity also provides a substantial tax free stipend equivalent to many graduate jobs.

The Project

Development of embedded-systems-based features and functions requires multiple iterations during the development process. Different vehicle domains carry with them specific requirements. Powertrain and chassis systems require high speed, high integrity signals, critical for the vehicle to perform its primary function. Infotainment systems are less time critical, and the user will tolerate latency e.g. when operating the radio, but are data intensive, handling audio and videos signals. Generic solutions are offered by industry but are often not fit-for-purpose and expensive especially during research activity.

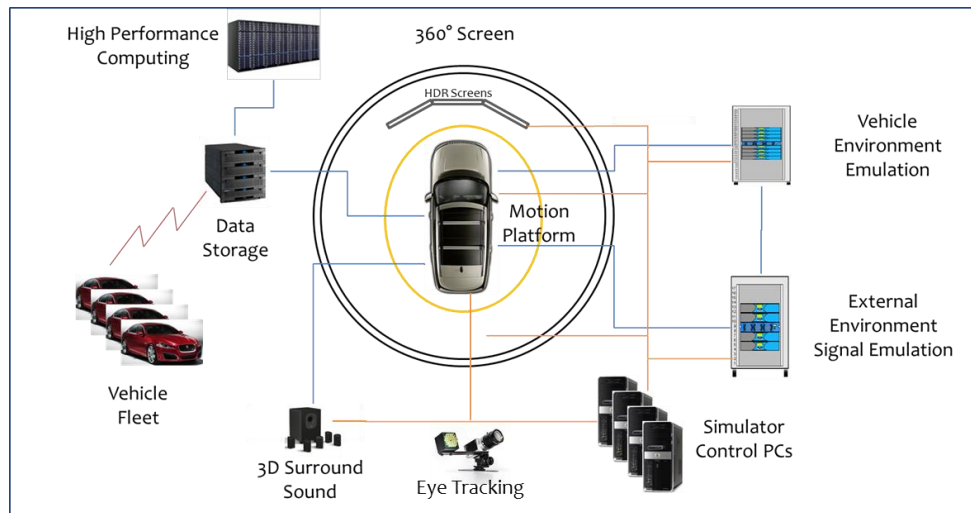
The aim of the project is to create a framework of hardware and software development platforms which can accelerate the R&D process for embedded systems.

Associated questions:

- What are the future architectural and feature developments that will influence development platforms?
- What will an innovative framework of hardware and software development platforms need to provide to accelerate the R&D process?
- How can the performance of such platforms be compared to existing solutions?

Business Need and Opportunity

WMG has a world leading reputation in research and industrial collaboration. The group has secured a £2.2 million EPSRC Robotics and Autonomous Systems capital grant to develop a unique driving simulator for UK industry-academia R&D. A drive-in, driver-in-the-loop, multi-axis driving simulator is the hub, delivering unique emulation of the external environment (GPS, ITS, WLAN, FM, DAB, cameras, ultrasonic etc.), dynamic vehicle systems (engine, powertrain etc.) and vehicle environment.



The WMG / JLR Research for Advanced Concept Development (RACeD) Doctoral programme will utilise the driving simulator as the hub for a portfolio of both technical and human factors research projects where innovation will lead to the next generation of smart, connected and autonomous vehicles. This project is one of five being created with two candidates already in place.

Entry Requirements

Qualifications

Applicants must be UK/EU residents and should have a 1st or 2.1 degree in Electrical and Electronics Engineering, Communications, Computer Science or other related science/engineering discipline.

Technical Attributes:

- Analyse, summarise and effectively present large data sets
- Work with electronics at hardware and software level
- Data fusion, signal processing and analytics
- Knowledge of wireless communication systems
- Modelling and simulation using simulation tools such as Matlab and NI Labview

Personal Attributes:

- Innovative and lateral thinking
- Excellent analytical, reporting and communication skills
- Self-motivated, independent and team player
- Genuine enthusiasm for the subject and technology

The Studentship

Qualifying students receive an attractive enhanced stipend which could be tax and NI free depending on your personal circumstances. For 2015 this totals approximately £19,000 tax free per annum.

The funding will also cover University tuition fees and all course fees as well as a travel allowance to attend courses.

Apply

Initial enquiries to Prof Paul Jennings (email: paul.jennings@warwick.ac.uk)

To apply please complete our [online enquiry form](#)