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## **DEVELOPMENT OF NEW LIGHTWEIGHT BATTERY FOR ELECTRIC CARS**

Over £1.3m of funding has been awarded by the Technology Strategy Board to a consortium led by advanced battery manufacturer Axeon, which will develop a new lightweight battery for use in electric small city cars, improving their performance, functionality and range.

The aim of the project is to develop an innovative high energy density battery system for an emission-free electric small city car. The battery, which will use new cell chemistry that offers higher energy density, will be lighter, smaller and therefore more efficient than those currently available, and will offer faster charging and a higher range.

The benefits of the newer technology from improved performance, functionality and range will be significant. These factors in turn will enhance the appeal of low carbon electric vehicles (EVs), and if take-up is as predicted (250,000 new EVs by 2015 in Europe alone) it would contribute to a significant reduction in the UK's CO2 emissions as well as positioning the UK as a leader in EV battery technology.

Other members of the consortium include Ricardo, a leading provider of technology and engineering solutions to the automotive and transport industries, and Allied Vehicles, niche vehicle manufacturer.

Over the next 22 months, Ricardo will develop the battery management system architecture and application software; Axeon will engineer and construct the battery system, perform cell testing for calibration and electronic system integration; and Allied Vehicles will design, build and test the vehicle platform.

Lawrence Berns, CEO of Axeon noted, "As a leading provider of innovative EV battery technology Axeon is delighted to be leading this consortium. This project will enable us to develop a new electric car battery with improved performance that will be highly adaptable and transferable to many vehicle manufacturers and platforms."

Ricardo CEO, Dave Shemmans, said, "The increasing electrification of the new vehicle parc is an important enabler for the global reduction of fossil fuel use in transportation and the consequent minimisation of CO2 emissions. Ricardo is pleased to be engaged in this important research programme, contributing our key skills in the area of advanced battery management system and control technology development."

Allied Vehicles' Managing Director, Paul Nelson commented, "This innovative project represents a great opportunity to further advance the development of electric vehicle technology. Proving this next-generation battery technology in a live car application will be a key step in continuing to expand the market appeal of zero-emission, all-electric vehicles."

Explaining the background to the decision to invest in the development projects, John Laughlin, the Technology Strategy Board's Low Carbon Vehicles programme manager, said, "We are investing to put the UK at the forefront of low carbon vehicle technology. A major barrier to the widespread acceptance of electric and hybrid vehicles is the difficulty in balancing the range of the vehicle against the available stored energy.

The work we are funding will focus on developing ultra-efficient electric and hybrid vehicle motive and ancillary systems that will make the best use of this energy. Increasing the market acceptance of low carbon vehicles will contribute to achieving UK and EU climate change targets, whilst creating significant market opportunities for UK-based companies."

## **ENDS**

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## **About Axeon**

Axeon is Europe's foremost producer of Li-ion battery packs and systems for electric vehicles (EVs) and is currently the UK's market leader in large commercial vehicle battery technology. Axeon's automotive battery and charger systems are designed and manufactured to exacting automotive standards, drawing on many years of battery experience. Currently Axeon's EV batteries have a range of up to 140 miles from a single charge and with stored capacity ranging from 5 kWh to 180 kWh.

Axeon's Battery Management System is a market-leading technology for managing lithium-ion batteries, delivering safe, durable performance.

Axeon also designs and manufactures batteries and battery management systems for power tools, enabling new cordless tools that deliver more power with less weight; and mobile power, delivering energy for innovative new products.

Axeon is fully owned by AG Holding Ltd, which is backed by funds managed by Ironshield Capital Management LLP.

For more information, please see [www.axeon.com](http://www.axeon.com)

## **About Ricardo plc**

With technical centres and offices in the UK, USA, Germany, the Czech Republic, China, Japan, India and Korea, Ricardo is a leading independent technology provider and strategic consultant to the world's transportation sector industries. The company's engineering expertise ranges from vehicle systems integration, controls, electronics and software development, to the latest driveline and transmission systems and gasoline, diesel, hybrid and fuel cell powertrain technologies. Its customers include the world's major vehicle, engine and transmission manufacturers, tier 1

suppliers and leading motorsport teams. Ricardo is committed to excellence and industry leadership in people, technology and knowledge; approximately 70 per cent of its employees are highly qualified multi-disciplined professional engineers and technicians. A public company, Ricardo plc posted sales of £197.7 million in financial year 2008 and is a constituent of the FTSE techMark 100 index – a group of innovative technology companies listed on the London Stock Exchange.

For more information, visit [www.ricardo.com](http://www.ricardo.com).

### **About Allied Vehicles**

Allied Vehicles is the UK's leading supplier of specialist vehicles. These include wheelchair accessible cars, MPVs and minibuses; the UK's widest range of purpose-built taxis; secure custodial vehicles; community safety vans and an exciting new range of electric powered light commercial vehicles. Built in partnership with Peugeot, these include all-electric vans, crew cabs, people carriers and minibuses which combine the features, comfort and familiarity of modern, mass-produced production vehicles with leading-edge lithium ion battery technology. Allied Electric vehicles also offer unique reliability and tracking benefits, thanks to the onboard and online zWebT remote electronic diagnostic and management system.

For more information, visit [www.alliedvehiclesltd.com](http://www.alliedvehiclesltd.com)

### **About the Technology Strategy Board**

The Technology Strategy Board is a business-led executive non-departmental public body, established by the government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve the quality of life. It is sponsored by the Department for Business, Innovation and Skills (BIS).

For further information please visit [www.innovateuk.org](http://www.innovateuk.org)