

Student's award-winning graphene battery could slash electric-car charging times

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Josh de Wit, a second-year Mechanical Engineering student at the University of Sussex, has designed a new concept for a stack-graphene battery for electric cars. Credit: Josh de Wit

A student engineer from the University of Sussex has won a national car industry award for designing a new battery that could revolutionise electric vehicles.

Josh de Wit, a second-year mechanical engineering student, has won the Autocar-Courland Next Generation Award for 2016 with a concept that could dramatically reduce charging times for [electric vehicles](#).

This is a massive problem for the motor industry, with many considering the battery to be the biggest obstacle to electric cars going mainstream. Existing batteries are big and heavy, take a long time to charge and run out quickly.

Josh's design harnesses the remarkable qualities of graphene, a form of pure carbon in sheets that are just one atom thick.

A [car battery](#) made with stacked graphene, says Josh, would take far less time to charge, store more energy and be cheaper, stronger and lighter than existing products.

This is because graphene has incredible conductivity, lightness and strength, and you would need to use far less of it than traditional materials.

Josh, who studies in the University's School of Engineering and

Informatics, is currently on placement with electric-motor company YASA. In the spring, he will begin a six-month work experience tour of some of the biggest names in the motor industry, including Honda, Jaguar Land Rover, McLaren, Nissan, Peugeot and Toyota.



Josh enjoys a selfie with James May and Richard Hammond from Amazon's The Grand Tour. Credit: University of Sussex

He is also working with the University's business incubator, Sussex Innovation, to develop a prototype and bring his stacked-graphene battery concept to market.

He said: "From the outset, this has been a challenging but rewarding experience and the mentoring programme has really helped me to develop my idea and push myself further.

"I'm now excited at the prospect of working with some of the world's most renowned vehicle manufacturers, experience which I've no doubt will stand me in excellent stead for carving out a career after university."

Autocar editor-in-chief Steve Cropley said: "If this award is anything to go by, the future is certainly bright for the automotive industry."

More information: [www.autocar.co.uk/car-news/ind ... 016-winner-announced](http://www.autocar.co.uk/car-news/ind...016-winner-announced)

Provided by University of Sussex

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