Driving the UK's electric revolution

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- 21 projects across the UK will receive a share of £5.75 million in Government funding to kickstart the UK's green industrial revolution
- Winning projects will fill gaps and build capability in the UK supply chain for the manufacture of Power Electronics, Machines and Drives (PEMD)
- This investment will help the UK achieve its net zero ambitions by creating the technology needed for cleaner transport, energy generation and industry

More than 20 innovative projects to help the UK reach net zero, by reducing carbon emissions in the transport, energy and industrial sectors, are to share nearly £6 million in UK Research and Innovation funding.

The projects, involving innovative start-ups, universities and some of Britain's biggest companies, will receive funding from the Driving the Electric Revolution challenge.
The money will help grow the UK's Power Electronics, Machines and Drives (PEMD) supply chain and increase manufacturing capability to allow future improvements in productivity, quality, capacity or efficiency.

This investment into the PEMD supply chain is vital to making sure that the UK reaches net zero, as some or all these technologies can be found in every electrical item. From mobile phones to hair driers and the motors in electric vehicles and trains, PEMD make them work. As they are such a crucial technology across sectors from transport to energy to agriculture, net zero is not possible without PEMD.

Spread across the UK from Wales to Scotland and the South West to the North East of England these projects will last up to nine months and include a project:

- to create rare earth magnets from scrapped loudspeakers.
- developing electric hub motors for farm vehicles.
- to create a high-performance electric vehicle at a lower cost.

Andrew Hine, Commercial Director of GreenSpur Wind Limited, part of a project looking at developing a new generator for the offshore wind market said "*The funding from* Driving the Electric Revolution *will enable us to work with Warwick Manufacturing Group and key members of a growing UK wind supply chain, to design and develop advanced manufacturing processes. We have developed a highly innovative, rare earth free, permanent magnet generator that will deliver significant cost savings to the offshore wind market. This funding is a critical step in the development of our technology, as it will enable us to demonstrate the capability of the UK supply chain to co-development partners."*

Another project led by RAD Propulsion is aiming to create an electric propulsion system with no external propeller blades for use in marine vessels. Their CEO, Clive Johnson said: *"We are delighted to have been awarded a Driving the Electric Revolution Challenge grant which will support us in bringing the first of our quality electric propulsion systems, RAD40, to the marine marketplace. We are confident this robust, intuitive and easy to use 40Kw drive, for ribs and powerboats, will revolutionise customer experience. The* Driving the Electric Revolution *grant is instrumental by enabling our supply chain and streamlining our*

production and manufacturing processes and complexities to assist with our goal of bringing a superior product to market in an ambitious timeframe."

Driving the Electric Revolution Challenge Director, Dr Will Drury said "*These projects form a vital part of the UK's green economic recovery from COVID-19. By focusing on growing the capability of the UK PEMD supply chain and manufacturing we aim to make the UK a global leader in the manufacture of core technologies which underpin electrification. This is crucial in helping the UK reach net zero by 2050."*

Notes

About the projects

The winning consortia are:

- Ansys Granta of Cambridge, with TWI
- Clas-SiC Wafer Fab of Lochgelly, with the Compound Semiconductor Applications Catapult
- Custom Interconnect of Andover, with the Compound Semiconductor Applications Catapult
- GE Energy Power Conversion of Rugby, with the University of Nottingham
- GreenSpur, of Hatfield, in collaboration with Warwick Manufacturing Group
- Hayward Tyler of Luton, with the Nuclear Advanced Manufacturing Research Centre
- Hypromag of Birmingham in conjunction with European Metal Recycling and the University of Birmingham.
- INEX Microtechnology of Newcastle-Upon-Tyne, working with the Compound Semiconductor Applications Catapult and the University of Sheffield
- Magnomatics of Sheffield, with the Offshore Renewable Energy Catapult
- Performance Projects, from Silverstone, in collaboration with ARWAC, Printed Motor Works, Saga Robotics and the University of Lincoln
- Perkins Engines Company of Peterborough, with the University of Nottingham
- RAD Propulsion of Fareham, working with iNetic and the National Composite Centre
- Ricardo of Shoreham, with Aspire Engineering, C. Brandauer & Co, Phoenix Scientific Industries, Global Technologies Racing and University of Warwick
- RIFT Technology of Malvern, working with University of Warwick
- S2S Electronics of Rotherham, with HSSMI, Envaqua Research, E. C. Williams, Recolight and the Institute of Materials Finishing
- Semefab of Glenrothes, with Eco Semiconductors and the University of Sheffield
- SG Technologies of Rainham in partnership with Newcastle University
- SPTS Technologies of Newport, with Newport Wafer Fab, Compound Semiconductor Centre, CS Connected and Swansea University
- Supply Design of Rosyth, with the Compound Semiconductor Applications Catapult
- WaveDrives of Bath, working with the University of Bristol
- ZF Automotive UK of Solihull, with Romax Technology, Royal Enfield UK, the Compound Semiconductor Applications Catapult and the University of Sheffield

Driving the Electric Revolution launched in 2019 and is funded by an £80 million investment from the Industrial Strategy Challenge Fund, run by UK Research and Innovation. Working across all sectors the challenge aims to make the UK a global leader in the manufacture of core technologies which support electrification: Power Electronics, Machines and Drives (PEMD). We are the catalyst and a main building block to delivering

the technology required to achieve net zero. Without PEMD net zero is not possible and without Driving the Electric Revolution, PEMD manufacturing will not happen at scale in the UK.

The Industrial Strategy Challenge Fund aims to bring together the UK's world leading research with business to meet the major industrial and societal challenges of our time. The fund was created to provide funding and support to UK businesses and researchers, part of the government's £4.7 billion increase in research and development over the next 4 years. It was designed to ensure that research and innovation takes centre stage in the Government's modern Industrial Strategy. It is run by UK Research and Innovation.

UK Research and Innovation (UKRI) is the largest public funder of research and innovation in the UK, with a budget of over £8bn. It is composed of seven disciplinary research councils, Innovate UK and Research England.

We operate across the whole country and work with our many partners in higher education, research organisations businesses, government, and charities.

Our vision is for an outstanding research and innovation system in the UK that gives everyone the opportunity to contribute and to benefit, enriching lives locally, nationally and internationally.

Our mission is to convene, catalyse and invest in close collaboration with others to build a thriving, inclusive research and innovation system that connects discovery to prosperity and public good.

UKRI continues to support the research and innovation community to navigate the transitions associated with the exit of the UK from the EU. To keep up to date please visit our dedicated pages. https://www.ukri.org/research/international/ukri-eu-exit/