News Release

Rolls-Royce links up with UK-based Superdielectrics to explore potential of very high energy storage technology
Monday, 19 March 2018

Rolls-Royce has signed a collaboration agreement with UK-based technology start-up Superdielectrics Ltd to explore the potential of using polymers with recently discovered remarkable properties to create next generation high energy storage technology.

The agreement will see Rolls-Royce combine its world-class material science and technical expertise with Superdielectrics' novel hydrophilic polymers that have been shown by Superdielectrics Ltd, in partnership with researchers from the Universities of Bristol and Surrey, to have potentially outstanding energy storage properties.

Dr. Dave Smith, Director of Central Technology, Rolls-Royce, said: "We are very pleased to be working with Superdielectrics Ltd at a time of rapidly-evolving developments in the energy storage industry. We bring deep experience of materials technology and advanced applications that require high energy storage capabilities with controllable rates of recovery.
We believe that electrification will play an increasingly important role in many of our markets over the coming years and by working with partners on potential new technologies for energy storage we can ensure that Rolls-Royce is well positioned to take advantage of new developments."

Jim Heathcote CEO of Superdielectrics Ltd, said: "We are delighted to be working with Rolls-Royce in the global race to develop advanced energy storage systems. This agreement gives us access to their unparalleled scientific and technical expertise. I hope this agreement will ultimately create new jobs and business opportunities in the UK."

Working with researchers from the Universities of Bristol and Surrey, Superdielectrics Ltd has been developing hydrophilic materials, similar to those originally designed for soft contact lenses, to increase the electricity storage capabilities of capacitors, which store electricity by creating electrostatic fields. These potentially exciting dielectric polymers may provide an opportunity to create capacitors that are able to rival – and even exceed – the storage capacity of traditional rechargeable batteries. The resulting supercapacitors may also be able to charge much faster than existing lithium-ion batteries. The exact terms of the agreement between Rolls-Royce and Superdielectrics remain confidential.

About Superdielectrics Ltd

Superdielectrics Ltd is a material research company that has discovered, in self-funded research with the Universities of Surrey and Bristol, an entirely new group of polymeric superdielectrics. The Company has filed patents on these materials and is commercialising this very significant scientific breakthrough – in supercapacitor electrolyte materials and electrical energy storage. The University of Bristol estimates that these newly discovered materials have dielectric property values which are 1,000-10,000 times greater than conventional electrolyte solutions. This breakthrough offers the prospect of a new energy storage technology that is superior to existing battery technology. Superdielectrics Ltd's technology is not limited by rare or expensive elements and potentially has a higher energy density than both Lead Acid and Lithium-ion batteries. Supercapacitors also offer very rapid charge and discharge capabilities.

About Rolls-Royce Holdings plc

1. Rolls-Royce pioneers cutting-edge technologies that deliver the cleanest, safest and most competitive solutions to meet our planet's vital power needs.
2. Rolls-Royce has customers in more than 150 countries, comprising more than 400 airlines and leasing customers, 160 armed forces, 4,000 marine customers including 70 navies, and more than 5,000 power and nuclear customers.
3. Annual underlying revenue was £15 billion in 2017, around half of which came from the provision of aftermarket services. The firm and announced order book stood at £78.5 billion at the end of December 2017.
4. In 2017, Rolls-Royce invested £1.4 billion on research and development. We also support a global network of 31 University Technology Centres, which position Rolls-Royce engineers at the forefront of scientific research.
5. Rolls-Royce employs almost 50,000 people in 50 countries. More than 16,500 of these are engineers.
6. The Group has a strong commitment to apprentice and graduate recruitment and to further developing employee skills. In 2016 we recruited 274 graduates and 327 apprentices through our worldwide training programmes.

For further information, please contact:

Richard Wray

Director of External Communications
Rolls-Royce plc

Tel +44 (0) 7810 850055

richard.wray@rolls-royce.com

www.Rolls-Royce.com