

## Directa Plus plc

("Directa" or the "Company")

# Directa's partner NexTech announces that the newly developed Li-S battery with G+ graphene in the cathode exceeds 400Wh/kg in full-scale pre-production prototypes

Directa is pleased to announce that, further to a collaboration agreement announced in October this year, NexTech Batteries ("NexTech"), a leading producer and supplier of Lithium-Sulphur batteries using the Company's G+® pristine graphene nanoplatelets, has achieved above 400 Wh/kg (watt-hours per kilogram, the usual measure of energy density) in a practical system. NexTech produced several full-scale pouch format cell prototypes using its proprietary cathode and electrolyte materials producing 410Wh/kg of specific energy at a weight only slightly below 30g. For comparison, standard Lithium-Ion batteries have an energy density of 100-265 Wh/kg.

NexTech's patented novel nanoparticulate cathode active material combines Directa's G+ pristine graphene nanoplatelets with sustainably sourced Sulphur, resulting from the recycling of oil refinement by-products. Such materials are fully recyclable, sustainable, ubiquitously available and inexpensive.

**Bill Burger, Chief Executive of NexTech, said of the achievement:** "We are very excited about surpassing the 400 Wh/kg mark in our pre-production prototype cells, and we look forward to shipping these next generation batteries to our long-term partners and first strategic customers."

"Transportation electrification and renewable energy storage are some of the key targets for NexTech's vision, and making lightweight, safe and affordable batteries available to the world is part of our exciting future. Demonstrating above 400 Wh/kg in a practical system has been touted the holy grail for many of these applications to become a commercial reality and clearly achieving this milestone today positions NexTech in the driver seat to the EV race."

**Giulio Cesareo, Chief Executive of Directa Plus, commented**: "This is a fantastic achievement by NexTech and I congratulate the team. Material science and engineering are crucial in responding to global challenges such as increased demand in energy. For us at Directa, this also represents the opening of a new, high potential vertical market that could use large amounts of our products."

For further information please visit <a href="http://www.directa-plus.com/">http://www.directa-plus.com/</a> or contact:

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#### **About Directa Plus**

Our focus is principally on the two sectors in which we have strong commercial advantage through developed and launched products and a technological lead: environmental (based on our Grafysorber® product) and textiles (based on our G+ products). In addition, we will continue to pursue opportunities in elastomers and composites (including tyres and asphalt), also using our G+ products. All our products are hypoallergenic, non-toxic and sustainably produced.

### **About NexTech Batteries**

Founded in 2016, NexTech is the industry leader in Lithium-Sulfur (Li-S) battery technology. Owns the exclusive license to Lawrence Berkeley National Lab's Li-S battery intellectual property. Li-S is a superior battery technology to Lithium-Ion (Li-ion) with 5X theoretical specific energy (Wh/kg) and a superior safety profile not prone to thermal runway, full recyclability and 50% lower manufacturing cost. The company has extended the capabilities of the technology tremendously and made headways in scaling up both the raw materials synthesis and the prototype battery development. NexTech is in the process of scaling up its manufacturing in order to meet increasing demand from customers for its batteries.

http://www.nextechbatteries.com