ZEN Graphene Solutions Reports Preliminary Results for Graphene Aerogel Battery Tests

written by Raj Shah | November 1, 2019

November 1, 2019 (Source) – **ZEN Graphene Solutions Ltd.** (TSXV: ZEN) ("**ZEN**" or the "**Company**") and its research partner, Deutsches Zentrum fur Luft- und Raumfahrt ("**DLR**", the German Aerospace Center) are pleased to report on additional encouraging results from their battery development program led by Dr. Lukas Bichler and his team at the University of British Columbia, Okanagan Campus (UBC-O). UBC-O has created a Graphene Aerogel composite anode material using a proprietary aerogel formulation containing doping with either ZEN's reduced Graphene Oxide (rGO) or Graphene (produced via ZEN's licensed process announced in the company's May 30, 2019 news release). Preliminary results indicate that relatively low loadings (<5 wt.%) of graphene-based material, combined with this proprietary aerogel structure, can result in an anode with a significant specific discharge capacity. Preliminary best results were achieved with a 2 wt.% loading of Graphene dispersed in aerogel and resulted in an initial specific discharge capacity of 2800 mAh/g and a discharge capacity of 1300 mAh/g after 50 cycles at a current capacity of 186 mA/g. These unoptimized results are believed to be better than those currently reported in the literature for Graphene Aerogel batteries. DLR and ZEN will present a poster of the battery results at the Batterieforum in Berlin, Germany in January 2020. Graphene-containing aerogels could have the potential to be a low-cost, low-weight, high-performance

composite materials for near future energy storage applications.

DLR has applied for and received federal funding from the Helmholtz Association to create a new Helmholtz Innovation Lab, called ZAIT, or the Center for Aerogels in Industry and Technology, which will be working together with industrial partners on the development of Aerogels. ZEN supported this application with a letter of intent indicating the Company would continue to collaborate with DLR in developing graphene-based aerogel batteries and other graphene-based products.

“Our work with the team at DLR has led to very promising research and we look forward to continuing this research both at UBC-O and within the new Center for Aerogels in Industry and Technology (ZAIT), a Helmholtz Innovation Lab” commented ZEN CEO Dr. Francis Dubé. Also, Dr. Bichler indicated that “this partnership brings together expertise from Canada and Germany to jointly develop high-tech energy storage systems, which are currently not available on the market”.

About ZEN Graphene Solutions Ltd.

ZEN is an emerging graphene technology solutions company with a focus on the development of graphene-based nanomaterial products and applications. The unique Albany Graphite Project provides the company with a competitive advantage in the potential graphene market as independent labs in Japan, UK, Israel, USA and Canada have independently demonstrated that ZEN’s Albany Graphite/Naturally Pure™ is an ideal precursor material which easily converts (exfoliates) to graphene, using a variety of mechanical, chemical and electrochemical methods.

To find out more on ZEN Graphene Solutions Ltd., please visit our website at www.ZENGraphene.com. A copy of this news release and all material documents in respect of the Company may be

obtained on ZEN's SEDAR profile at www.sedar.ca.

Forward Looking Statements

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