ZEN Graphene Solutions Announces New Research Collaboration Agreement on Carbon Aerogels with German Aerospace Center

written by Raj Shah | October 15, 2020

October 15, 2020 (Source) – **ZEN Graphene Solutions Ltd.** (TSXV: ZEN) ("**ZEN**" or the "**Company**") today announced that it has signed a new research collaboration agreement with the Deutsches Zentrum für Luft- und Raumfahrt ("DLR", the German Aerospace Center) to investigate the use of Albany Pure™ graphene-based nanomaterials in the fabrication of novel carbon aerogel composites. The goal of this collaborative research project titled, "Development of Innovative Composites based on Carbon Aerogels", is to develop electrode materials for new generation batteries and will build on the collaboration between ZEN, DLR and Dr. Lukas Bichler at the University of British Columbia-Okanagan Campus (UBC-O) that was previously reported on October 15, 2018 and November 1, 2019.

In November 2019, ZEN reported on encouraging preliminary results on graphene-carbon erogel battery development work which indicated that relatively low loadings (<5 wt.%) of graphene-based material, combined with DLR's proprietary carbon 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 were believed to be better than those currently reported in the literature for graphene aerogel batteries. Graphene-enhanced aerogels could have the potential to be a low-cost, low-weight, high-performance composite materials for near future energy storage applications.

Additionally, DLR has received federal funding from the Helmholtz Association to create the 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.

Francis Dubé, ZEN CEO commented, “We are pleased to move forward with DLR and UBC-O, and continue our collaboration. Initial results were interesting and this research has us excited about the future potential of this technology.”

About ZEN Graphene Solutions Ltd.

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

About DLR

The German Aerospace Center (DLR) is the national aeronautics and space research centre of the Federal Republic of Germany. Its extensive research and development work in aeronautics, space, energy, transport, digitalization and security is integrated into national and international cooperative ventures. In addition to its own research, as Germany's space agency, DLR has been given responsibility by the federal government for the planning and implementation of the German space program. DLR is also the umbrella organization for one of Germany's largest project management agencies. DLR has approximately 8000 employees at 20 locations in Germany, and also has offices in Brussels, Paris, Tokyo and Washington D.C.

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To find out more about 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

This news release contains forward-looking statements. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties. Although ZEN believes that the assumptions and factors used in preparing the forward-looking information in this news release are reasonable, undue reliance should not be placed on such information, which only applies as of the date of this news release, and no assurance can be given that such

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