

Zentek Develops New Carbon-Based Nanotechnology-Enhanced Icephobic Coating to Reduce Ice Accretion

written by Igor Makarov | November 2, 2021

Company anticipates applications for aircraft, wind turbines, ocean vessels, and building structures to increase safety and efficiency outcomes in ice-forming weather conditions

November 2, 2021 ([Source](#)) – Zentek Ltd. (“ZEN” or the “Company”) (TSXV:ZEN)(OTC PINK:ZENYF), a Canadian, IP development and commercialization company focused on next-gen healthcare solutions, announces the development of a new, patent-pending, carbon-based, nanotechnology-enhanced coating designed to prevent ice accretion.

During the testing process with a 3rd party lab, various coatings were tested for adhesion strength as measured by pressure in kilopascals (kPa) required to dislodge ice from the surface. ZEN’s coating demonstrated an adhesion strength consistently around 20 kPa, a significant improvement over the current commercial products. For comparison, the ice adhesion strength of a bare aluminum alloy is ~500 kPa while to be classified as icephobic, adhesive strength must be less than 100 kPa. ZEN’s preliminary results have demonstrated a 96% improvement over aluminum and 80% improvement over the 100 kPa threshold. This winter, ZEN’s coating will be included in flight testing on a specially equipped research aircraft under real world ice-forming weather conditions by this same 3rd party. ZEN will also test the feasibility of this coating as an effective passive

means to de-ice drone propellers in flight to permit all-weather operations. If successful, this would permit safer drone operations in substantially more challenging weather conditions.

“We continue to actively develop new nanotechnology-enabled applications in high-impact areas, which, in this case, has the potential to significantly increase safety for vehicles such as drones, aircraft, ocean vessels, wind turbines and other applications where, in cold weather climates, there is the potential for ice to accrete on surfaces, causing hazardous breakdowns in function,” commented Greg Fenton, ZEN CEO. “Our mission continues to be to develop innovative nanotechnologies that improve people’s lives – and while our focus is primarily on nanotechnology-enabled healthcare solutions – we are also making breakthroughs that substantially contribute in other industries that may result in vital steps forward to ensure public safety and enhance sustainability.”

Previous research has shown that while certain coatings may demonstrate the prevention of ice adhesion, they have been limited to a laboratory environment and questions remain about the durability necessary for them to be considered a practical application as an aircraft ice protection system (IPS). The development of a nanotechnology-enhanced coating with dispersed graphene may have the potential to address this through the enhancement of the bulk mechanical properties. On August 9, 2021, ZEN filed a provisional patent on this technology with the United States Patent and Trademark Office.

The Company has begun to explore partnership opportunities and will communicate progress as appropriate.

About Zentek Ltd.

ZEN is an IP development and commercialization company focused on next-gen, nanotechnology-enabled healthcare solutions in the

areas of prevention, detection and treatment. ZEN is currently focused on commercializing ZENGuard™, a patent-pending coating with 99+% antimicrobial activity, including against COVID-19, and the potential to use similar compounds as pharmaceutical products against infectious diseases. The company also has an exclusive agreement to be the global commercializing partner for a newly developed, highly scalable, aptamer-based rapid pathogen detection technology.

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To find out more about Zentek 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 events will occur in the disclosed time frames or at all. ZEN disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, other than as required by law. Neither the TSX Venture Exchange nor its Regulation

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SOURCE: Zentek Ltd.