Zentek Reports on Icephobic Testing

written by Raj Shah | March 14, 2022

March 14, 2022 (Source) – **Zentek Ltd.** ("**Zentek**" or the "**Company**") (TSX-V:ZEN and OTC:ZENYF), a Canadian IP (Intellectual Property) development and commercialization company, is pleased to report excellent results in three rounds of testing of its icephobic coating, including laboratory tests, real-world flights and applications related to drone operations in adverse weather. To support this effort, Zentek has undertaken UV weathering testing to assess the durability of these coatings with the view to demonstrate its practical application as an ice protection technology for drone and wind turbine markets.

"We would like to thank our research and development team for their outstanding work on developing what we believe is very promising icephobic technology. Zentek's icephobic coating can potentially be used to improve aircraft and drone safety and sustainability, helping to both grow and diversify the Company's future revenue potential," said Francis Dubé, Executive Chairman and Director at Zentek.

Real World Testing

Zentek has supplied samples of its icephobic coating on a test pieces that can be attached to a research aircraft and is currently undergoing flight trials that are targeting adverse weather environments. Video footage of the coating performance has shown positive results and demonstrated that, under significant icing conditions, these coatings provide an effective de-icing and anti-icing solution.

Drone Testing

Zentek coatings have demonstrated low ice adhesion properties in laboratory testing and therefore lend themselves to applications where external forces can be used to remove ice contamination from a surface. To test this, Zentek icephobic coatings have been applied to propellers that are typically used for drone applications. The propellers coated with Zentek's icephobic material have demonstrated that higher thrust can be maintained when compared to a non-coated propeller due to the ability to shed ice that forms on the blades that would otherwise degrade the aerodynamic properties.

Zentek management believes this demonstrates proof of concept that drones can extend their operational temperature range, a critical feature in freezing climates, by using Zentek's icephobic coating on propellers.

Accelerated Ageing Testing

Zentek provided coated samples to be exposed to UV weathering for 1,000 hours which approximates two years' worth of sun damage in typical Canadian weather. These samples were then tested in an icing wind tunnel under dynamic conditions and demonstrated significant retention of their icephobicity. This successful accelerated ageing test suggests good durability under normal environmental conditions, an important step as the Company begins to seek to commercialize this technology.

Next Steps

Zentek will now test its coating for sand and rain erosion, another important measurement that will demonstrate its use as a practical application. In addition, other tests are being planned that will evaluate the coating as part of a hybrid ice protection system, where the icephobic properties are combined

with a heated de-icing system with the aim to improve efficiency of current ice protection methods used in general and commercial aviation. These tests are already scheduled, and the Company will report results as soon as they are available.

“Positive results from our ongoing icephobic testing, in laboratory as well as real-world conditions, clearly demonstrate the significant potential for graphene and other nanomaterials in advanced materials development and commercialization. More specifically, we believe our icephobic coating can be used to enhance safety and efficiency in many ways, creating several potentially new opportunities for our company and shareholders,” added Dubé.

About Zentek Ltd.

Zentek is an IP development and commercialization company focused on next-gen healthcare solutions in the areas of prevention, detection and treatment. Zentek is currently focused on commercializing Zen**GUARD**™, a patent-pending coating shown to have 99% antimicrobial activity, including against COVID-19, and the potential to use similar compounds as products against infectious diseases. The Company also has an exclusive agreement to be the global exclusive commercializing partner for a newly developed aptamer-based rapid pathogen detection technology.

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To find out more about Zentek Ltd., please visit our website at www.Zentek.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 http://www.sedar.com/.

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SOURCE: Zentek Ltd.