ZEN Graphene Solutions Announces Exclusive Worldwide Rights to Commercialize Rapid, Saliva-Based COVID-19 Antigen Testing Technology

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GUELPH, June 17, 2021 - ZEN Graphene Solutions Ltd. ("ZEN" or the "Company") (TSXV:ZEN)(OTC PINK:ZENYF), a Canadian, next-gen nanomaterials technology company, is pleased to announce that it has signed an exclusive agreement with McMaster University to be the global commercializing partner for a newly developed aptamer-based, SARS-CoV-2 rapid detection technology, developed by a team of researchers under the guidance of Drs. Yingfu Li, John Brennan and Leyla Soleymani, who are recognized as global leaders in biosensing technologies, and their applications as point of care (POC) diagnostics. This patent-pending technology is validated with clinical samples from patients recruited under the supervision of two clinicians, Drs. Deborah Yamamura and Bruno Salena, who also work at McMaster University. The project was funded by the Canadian Institutes of Health Research (CIHR). This technology is exceptionally accurate (similar to current PCR tests), saliva-based, affordable, scalable and provides results in under 10 minutes.

Greg Fenton, ZEN CEO commented: "We would like to congratulate Dr. Li and his entire McMaster team on this extraordinary accomplishment. During the pandemic we have all become acutely aware of the importance of early detection to help reduce transmission of the SARS-COV-2 virus - and we believe this non-invasive test is truly differentiated with its combination of accuracy, speed, ease of use, scalability and affordability. The reopening of the global economy will benefit from mobile, fast, highly accurate and inexpensive testing and we expect this new technology to help facilitate this, including the ability to rapidly adapt new variants into the test."

"ZEN is focused on developing and commercializing nanotechnologies that help protect people and the environment, and this opportunity in pathogen detection is a natural complement to our existing Health portfolio focused on prevention and treatment. We are proud and honoured to be working with the world-class team of scientists and clinicians at McMaster University and look forward to commercializing this exciting new technology that will help us more efficiently detect the SARS-CoV-2 virus and its variants in the near term, and most importantly - many other pathogens longer term. This is the start of what we know will be a long and prosperous collaboration between McMaster and ZEN. We are actively engaging with research organizations, government and other potential partners to bring this technology to market as quickly and effectively as possible." added Mr. Fenton.

The Covid-19 virus has demonstrated the ability to mutate rapidly as evidenced by the discovery of the UK, South African, Brazilian and now Indian variant of the virus. As societies around the globe continue to open-up, the need for accurate, rapid testing that can be adapted to new variants will always be in demand to prevent future lockdowns. The rapid detection technology developed by McMaster University can be quickly optimized to accommodate such new variants.

Key Research and Technology Highlights:

- Rapid, point-of-care, saliva-based antigen test utilizes a newly developed, patent-pending novel molecular-probes that specifically recognize the SARS-CoV-2 spike protein
- Evaluation of more than 60 positive and negative patient saliva samples indicated that the sensor had a clinical sensitivity of 82% and specificity of 100%, which meets the FDA regulations for home-based antigen tests and can detect both the Wuhan version and the UK variant. Additional variants of concern can be easily added as they arise. Work is currently underway to incorporate the Brazil, South African and Indian strains.
- Unique combination of sensitivity, specificity and extremely low detection limits (<1,000 copies per ml) differentiate the technology from other rapid saliva-based tests on the market (>10,000-50,000 copies per ml)

- Other rapid saliva tests on the market either require complicated and time-consuming separation, RNA extraction or amplification steps, have not been validated with clinical samples, require long assay times (> 1 hour) or do not provide adequate detection limits
- Uses electric readout that can provide a rapid, single-step detection method with high detection sensitivity using simple handheld instrumentation - like a cell phone - for widespread use making it ideal for the home or in large public settings
- Technology can be used as a platform for detection of many other viral and bacterial pathogens beyond SARS-CoV-2 and its variants
- Future iterations of technology to be co-developed through collaborations between McMaster and ZEN
- Provisional patents for the technology were filed on June 16th, 2021
- Test requires final Health Canada and FDA approval
- The Company entered into the agreement based on review of McMaster clinical test data, review of test components and significant evaluation of the underlying technology

A license fee of $100,000, comprised of $50,000 cash and $50,000 in common shares of ZEN (19,157 common shares at $2.61 per share, subject to the approval of the TSX Venture Exchange) is payable to McMaster as consideration. The Company also granted 100,000 options to certain advisors of the Company with a term of 3 years and strike price of $2.61.

About ZEN Graphene Solutions Ltd.

ZEN is a next-gen nanomaterials technology company developing and commercializing technologies that help protect people and the environment. ZEN is currently focused on commercializing ZENGuard™, a patent pending graphene-based coating with 99% antimicrobial activity, including against COVID-19, and the potential to use similar graphene compounds as pharmaceutical products against infectious diseases. The company has a significant R&D pipeline with an interest in monomers, polymers, metal alloys, corrosion coatings, biosensors along with the production of graphene oxide and graphene quantum dots. Additionally, the company owns the unique Albany Graphite Project which provides the company with a potential competitive advantage in the graphene market. Labs in Japan, UK, Israel, USA, and Canada have independently demonstrated that ZEN's Albany Pure™ Graphite is an ideal precursor material that easily converts (exfoliates) to graphene, using a variety of mechanical, chemical, and electrochemical methods.

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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 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 Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

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