

Moving forward with Trebor on their 100M mask agreement, ZEN achieves positive initial phase 2 cytotoxicity results

ZEN Graphene Solutions Ltd. (TSXV: ZEN) ('ZEN') continues to innovate and rapidly progress. Initially a graphite junior, then a graphene producer, then a co-producer of graphene-silver materials for COVID-19 protection (masks, gloves etc), and now a potential graphene-based biocidal product developer. It has been an incredible past 9 months for ZEN Graphene Solutions as shown on the chart below. The upward move started after mid-2020 and after ZEN gained a Letter of Intent (LOI) for their COVID-19 virucidal graphene-based composite ink for face masks and other protective clothing. It is not at all surprising that ZEN was recently named in the TSX Venture top 50.

Below I take a look at the latest developments with this most exciting company.

ZEN Graphene Solutions stock price has surged on the back of tremendous company news and progress the past 9 months



Source

ZEN describes themselves as:

“A next gen nanomaterials company developing graphene-based technology that helps protect people, the environment and makes existing products better. ZEN is currently focused on commercializing a **patent-pending graphene-based coating with 99% biocidal activity, including against COVID-19** and the potential to use this graphene compound as a **pharmaceutical product against infectious disease.**”

Dr. Francis Dubé, ZEN Executive Chairman, stated:

“The company continues to make positive progress towards our patent-pending, biocidal compound being considered as a pharmaceutical agent. Health safety evaluation in preclinical models is the most important consideration at this stage – and with the high dose (1,000 mg/kg) in this study being 20,000 times higher than the Minimum Inhibitory Concentration from the Mount Sinai study – we are incredibly encouraged. We will continue to move this new potential therapeutic towards Phase 1 human trials as quickly as possible pending the final report

from Nucro-Technics.”

A translation of the above is that thus far ZEN’s graphene based graphene-silver product is proving to be extremely safe, but there is still a way to go. We already know from previous studies that the product is **99.9% effective** against aerobic bacteria (gram-positive and gram-negative), fungal and viral activity, including COVID-19.

Greg Fenton, ZEN CEO, commented:

“This broad-spectrum compound is a novel solution that could have an impact on infectious disease management. It has the potential to act as a targeted treatment for multi-drug resistant organisms (MDR) as well. As in previously released results on the effectiveness of a similar compound against COVID-19, this graphene-based treatment could be against viral infections. We will be exploring its use not only in the fight against the current global pandemic, but also against numerous other pathogens....Based on this breakthrough and an urgent need for such treatments, we will seek immediate collaborations with potential pharmaceutical partners to optimize the delivery mechanisms to target infections in general and especially those common in the respiratory tract.”

ZEN’s graphene products have enormous potential applications from fighting pathogens to air and water filtration to better batteries and many more



- Potential medical breakthrough treatment for human-contracted pathogens with far-reaching and extremely positive impacts for society
- Biocidal coating on PPE helps protect people against pathogens, like COVID-19



- Graphene has shown significant promise for water filtration given its permeability properties



- Potential for graphene to be used in solar cells and next generation batteries for energy storage



- Pure graphene is 200 times stronger than steel. Graphene-enhanced aluminum and concrete can lead to stronger and more sustainable form of building materials and infrastructure development



- Graphene-based coating on air filtration media has the potential to reduce human contact with pathogens
- Graphene has shown significant promise for water filtration – and potentially waste management – given its permeability properties



- Graphene-enhanced applications can allow countries to strengthen infrastructure and resilience against climate-related hazards
- Potential for enhanced and cleaner energy solutions and more sustainable infrastructure development can allow countries to implement and meet more aggressive emission and climate policies and targets

Graphene is a next gen nanomaterial with enormous potential to help protect people, the environment and help us make meaningful progress toward the UN's sustainable development goals¹.

*We are just scratching the surface on graphene's potential to make the world **safer, cleaner and more efficient***

Source: ZEN's corporate presentation

ZEN's latest successes

- Jan. 13, 2021 – ZEN reported positive news on the use of their graphene-silver coating for masks. Filter material flow rates and pressure drop were not affected by the application of the coating and treated mask material achieved excellent dispersion and coverage. ZEN stated: "Both findings help validate that ZEN's coating does not inhibit breathability in polypropylene mask material or flow rates in air filtration media." This is another significant step towards successful adoption and commercialization of ZEN's graphene-silver coating. Recall that ZEN previously announced a contract in Canada to supply their graphene-silver coating to TreborRx ('Trebor') for 100 million masks.
- Jan. 18, 2021 – ZEN's announced that they had reached an agreement with Trebor for the application of their coating on nitrile gloves sourced or produced by Trebor. ZEN will provide Trebor with a distribution agreement for Canada, the USA and Mexico (Territory). Trebor agrees to use the coating on all gloves sold and will

pay ZEN a royalty per glove coated, with a minimum first year guarantee of 100 million gloves. George Irwin, Trebor CEO, commented, **“We are excited to bring another game changer to the PPE Industry.** We believe Zen’s biocidal coating on gloves gives front line responders and health care associates in all medical and non-medical situations additional protection for both the patient and health care worker. This coating can be used on gloves in food processing and agriculture as well. Trebor and Zen have a unique relationship with the goal of making safer PPE. Trebor looks forward to supplying the biocidal gloves within the 1st half of 2021.”

Next steps for ZEN

ZEN’s engineering company will design and source the equipment for the production of the proprietary graphene-silver formula on an industrial scale. The equipment will be assembled and installed in ZEN’s new industrial facility in Guelph, Ontario. We will also need to wait to see what happens with Trebor’s application for an amendment to Health Canada to include ZEN’s coating on their already approved masks. There will also be further results and trials for ZEN’s biocidal product for human use.

Closing remarks

ZEN Graphene Solutions currently has a market cap of C\$242 million. The Company has had a stunning past year and management is to be congratulated. Further upside remains should they achieve commercialization success in either of their current main projects (graphene-silver coating for personal protective equipment and successful trials and approval of their biocidal agent).

This is an amazing story from an amazing company. Stay tuned in 2021.

- Dr Dube & Greg Fenton on ZEN's potential graphene-based antibiotic, antiviral & antifungal compound (video)

Disclosure: *The author is long ZEN Graphene Solutions (TSXV: ZEN)*