

How NASDAQ listed Zentek is a 'wow' company with enormous potential to tap into several multi-billion dollar industries.

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Every once in a while investors will come across a 'wow' company. This is a company that just wows you with their performance and their stock price.

For me the 'wow' company of the last year is [Zentek Ltd.](#) (NASDAQ: ZTEK | TSXV: ZEN). Just take a look at the stock chart below, showing the stock rising a staggering 9.7x over the past approximately year and a half. The good news for investors is that the recent pullback allows for a better entry price than when the stock peaked at C\$6.50.

Zentek Ltd (TSXV: ZEN) 5 year stock price chart



Source: [Yahoo Finance](#)

Today I give a brief summary of Zentek for new investors and an update on their progress in 2022.

Zentek's business summary

Zentek [describe](#) themselves as "an IP development and commercialization company focused on next-gen healthcare solutions in the areas of prevention, detection and treatment."

I prefer to think of them as a nanotechnology and graphene company (they were formerly known as ZEN Graphene Solutions) that has expanded into multiple areas of commercialization; particularly into the healthcare sector with a product for prevention, detection and treatment of numerous pathogens.

Areas/products of commercialization for Zentek include:

- [ZenGUARD™](#) – A patent-pending ‘graphene-silver coating’ shown to have [99% antimicrobial activity](#), including against COVID-19. The coating can be used for PPE applications (including nitrile gloves, gowns, footwear coverings and surgical caps) and also in air purifiers. [According to](#) Zentek: “ZenGUARD™-coated masks removed 98.9% more bacteria and 97.8% more virus compared to a typical ASTM Level 3, 3-ply uncoated, resulting in over 99.99% BFE and VFE ratings.” ZenGUARD™ has [Health Canada approval](#) (Medical Device Establishment License, “MDEL”) and [production facilities are being readied for first orders.](#) Zentek is commercializing ZENGuard™ with mask manufacturer Trebor Rx, but can also work with other manufacturers.
- [Pathogen Detection Technology](#) (aptamer-enabled) – A low cost, rapid, saliva testing, scalable technology to detect numerous pathogens, initially to be used for COVID-19 testing.
- [Antimicrobial therapies](#) – In-vitro testing shows [99.9% effectiveness](#) against bacteria, fungi and viruses.
- **Air conditioner filter coating** – Zentek has experimented with past partners to use graphene oxide coated filters to help remove moisture from the air and make air conditioners up to [75% more energy efficient.](#)
- [Icephobic graphene coatings](#) – 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. An 'icephobic' surface repels ice build up.

- **Others** – Graphene tires, graphene in concrete, [fuel additives](#) (potential to reduce GHG emissions from diesel and bio-diesel fuels by as much as 10%), and graphene for batteries.

Zentek's latest news and progress in 2022

Zentek announced on [February 18, 2022](#) the development of graphene-wrapped silicon anodes. Zentek CEO Greg Fenton [stated](#): "Not only were the researchers able to demonstrate good performance with laboratory-scale half-cells, the performance was also validated with commercial lithium iron phosphate cathodes suggesting they could be a drop-in solution for enhancing already available battery technologies. We look forward to continuing our support of their research and development to potentially bring this technology to market. The company has begun discussions with a potential industry partner."

As [reported](#) on February 28, 2022, Zentek's Guelph production facility is now fully licensed and permitted for ZenGUARD™ production and substantially all equipment has been received to ramp-up industrial scale capacity. First orders have been received and the ZenGUARD™ international patent is due shortly. As [reported](#) on January 13, Zentek has entered into a binding letter of intent with GMAF Circular Medico ApS to produce and sell ZENGuard™-enhanced GMAF trademarked recyclable surgical masks.

With regards to the Pathogen Detection Technology, Zentek [continues to work to bring the product to market](#) as soon as practicable, which will require having a working prototype

prepared, having conducted baseline studies, and having made applications to regulatory bodies.

With regards to Zentek's icephobic coatings, they are currently [undergoing full flight trials](#) on a specially equipped research aircraft under real world ice-forming weather conditions.

Zentek's new manufacturing facility in Guelph, Ontario, Canada is set for commissioning shortly



Source: [Zentek website](#)

Closing remarks

Zentek really is a 'wow' company with enormous potential to tap into several multi-billion dollar industries. Focusing on pathogens (viruses, bacteria, fungi) prevention, detection, and treatment is simply staggering. Then there are multiple other applications for Zentek's products, the most recent being graphene-wrapped silicon anodes that can potentially be used to create better EV batteries and the icephobic coatings opportunity.

In terms of commercialization, Zentek is already advancing with ZenGUARD™ in terms of a production facility and orders, with the ZenGUARD™ patent due very soon and production from Zentek's new Guelph facility set to begin very soon.

Finally, Zentek is now getting the exposure it deserves with [a NASDAQ listing](#) that began on March 22, 2022, under the ticker "ZTEK". Not surprisingly the stock [rose 25.93%](#) on March 23.

Zentek has [C\\$32 million](#) in cash, no debt, and looks like being a 'wow' company again in 2022. Stay tuned.

Disclosure: The author is long Zentek (TSXV: ZEN).

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

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[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



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)*