

Zentek sets its sights on treating skin conditions as it expands potential uses for its ZenGUARD graphene coating

written by InvestorNews | August 18, 2022

As the world becomes increasingly interconnected, we have seen how the risks of disease transmission have also increased. In response, companies like [Zentek Ltd.](#) (NASDAQ: ZTEK | TSXV: ZEN) are leveraging cutting-edge nanotechnology to develop new ways of protecting people from harmful pathogens. It is dedicated to researching and developing new technologies, specifically around nanomaterials. Their graphene-based solutions have the potential to revolutionize many industries beyond healthcare, including electronics, energy storage, water treatment, and more. They have partnered with leading companies in each of these sectors to commercialize their technology.

This need is why Zentek created an antimicrobial coating known as ZenGUARD™, a proprietary graphene-oxide silver compound shown to be highly effective at filtering out bacteria and viruses. The product has been measured to filter 98.9% more bacteria and 97.8% more viruses than standard surgical masks.

Recently, Zentek's team has been focused on commercializing the patent-pending ZenGUARD™ coating. InvestorIntel's [Tracy Weslosky](#) recently spoke with Zentek CEO and Director Greg Fenton about their current efforts and their recently [announced](#) success of its commercialization efforts.

Zentek announced that it has entered into a Reciprocal Supply Agreement on March 31, 2022, with EkoMed Global Inc., an

international manufacturer and distributor of personal protective equipment (PPE). In this agreement, Zentek will sell quantities of its coated material to be used initially for surgical masks made by EkoMed and eventually other PPE in the future. Zentek continues to work to expand its network of partnerships and is looking to get FDA approval for ZenGUARD-coated products.

In July Zentek filed a [provisional patent](#) on the use of ZenGUARD as an anti-inflammatory agent for dermatological conditions. Further expanding its potential as a dermatological product, it is currently being researched for treatment of various skin conditions, including both infectious and inflammatory conditions like acne, psoriasis, eczema, sunburn, poison ivy, warts, seborrheic dermatitis and toenail fungal infections.

Zentek is also positioned strategically from a supply chain perspective. The Albany Graphite project is located in Northern Ontario, Canada, and they own 100% of the project. The graphene from this source has a combination of graphite purity, particle size, and consistency which could make it ideal for certain solutions. This project could be a significant advantage as Zentek continues to develop graphene-based solutions for various industries.

As the ZenGUARD brand is based on graphene, controlling their own source of graphene can lead to cost and quality control advantages. Their team is also developing surgical masks, HVAC filters, personal protective equipment, rapid detection point of care diagnostics tests, and pharmaceutical products that are all based on graphene-based compounds.

Zentek could have large potential upside if it can capitalize on its technology. They are well positioned to continue growing their business through a combination of strong IP protection,

continued innovation, and strategic partnerships. The key will be whether Zentek can continue to expand the market for its ZenGUARD coated products and partner with enough manufacturers to win enough market share in Canada and abroad.

Driving to deliver on their 800M mask coatings per month demand, ZEN Graphene up 746% over the past year

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[ZEN Graphene Solutions Ltd.](#) (TSXV: ZEN) ('ZEN') continues to move at a rapid pace with demand for their graphene biocidal coating through the roof. Following successful product and cytotoxicity trials demand for ZEN's graphene biocidal coating is coming from personal protective equipment (PPE) and air filtration manufacturers.

ZEN's biocidal coating method, applications, & quick facts



[Source](#)

March was a super busy month for ZEN

On March 2, 2021 ZEN [announced](#) successful Phase 2 cytotoxicity testing results. The announcement was excellent news [stating](#): "Nucro-Technics recorded no adverse effects after seven days of

repeated dosing with concentrations many thousands of times higher than those found to be 99.9% effective against viruses, bacteria, and fungi.”

On March 3, 2021 ZEN [reported](#): “ZEN Graphene Solutions and Trebor Rx Corp. announce successful Health Canada testing requirements of surgical masks.”

Equally as spectacular news came on March 17, 2021 when ZEN [announced](#) successful testing of its graphene compound against antimicrobial-resistant bacteria. ZEN [stated](#):

“Successful testing results of its patent-pending graphene-based compound against four gram-positive and nine gram-negative bacteria with antimicrobial-resistance (AMR), including multidrug-resistant variants like methicillin-resistant staphylococcus aureus (MRSA). Testing was completed under the direction of Dr. Tony Mazzulli, MD, FRCPC, FACP, Microbiologist-in-Chief and Infectious Disease Specialist at University Health Network/Mount Sinai Hospital, following initial breakthrough results demonstrating that the compound is 99.9% effective against viruses, bacteria, and fungi.....Dr. Mazzulli, MD, commented: “The test results indicate that ZEN’s Graphene Compound (GC) at very low concentrations is capable of inhibiting a variety of gram-positive and gram-negative antimicrobial-resistant (AMR) aerobic bacteria. These pathogens are associated with a number of difficult-to-treat clinical infections including those involving the respiratory tract, urinary tract, skin and soft tissues, and bacteremia....The relatively low concentrations of this GC required to achieve an antimicrobial effect is also promising.”

Translation of the above news releases: ZEN’s graphene biocidal compound is highly effective, even at low concentrations, and there are no adverse side effects (at least based on the studies

to date).

ZEN is supply constrained as demand is through the roof

Demand is way more than what ZEN can supply right now. Somewhat like Tesla with their revolutionary electric vehicles being supply constrained. ZEN is already partnering with Trebor on [a 100M mask agreement](#), with ZEN supplying their biocidal coating and Trebor manufacturing the masks.

To meet surging demand, ZEN [announced](#) on March 24, 2021, their biocidal coating production plans. ZEN [stated](#):

“ZEN successfully transitioned from bench scale to pilot scale and has begun investing in additional pilot-scale capacity to help meet immediate demands. This intermediate step will significantly increase our current capacity to supply the demand from Trebor RX and provide product for new customers while the design and construction of our industrial-scale expansion continues with our engineering firm, Bantrel.”

But wait it gets even better. ZEN published their proposed 2021 ‘monthly’ production numbers as shown below. If all goes to plan, ZEN plan to be producing their biocidal coating for a staggering 800 million masks a month by November 2021.



[Source](#)

ZEN is currently [raising C\\$3M](#) to help fund their rapid expansion. The offer is at C\$2.50 per unit, with a unit including one share and one warrant exercisable at C\$3.00 per share for a period of 24 months from the date of issuance.

In a final piece of good news from March, ZEN [announced](#) on March 4: “ZEN Graphene Solutions and Constance Lake First Nation sign

implementation agreement for Albany Project development.” The agreement is another important milestone in the development of ZEN’s Albany Graphite Deposit.

Closing remarks

We are living in truly remarkable times with COVID-19 now claiming [127,794,740 confirmed cases](#) and [2,796,727 deaths](#). Thank goodness companies such as ZEN Graphene Solutions are working so fast to help protect the world from COVID-19 and other terrible infectious diseases.

ZEN Graphene Solutions (market cap C\$218M) is up [746%](#) over the past year, but if they can deliver on their 800M mask coatings per month and other opportunities, then the market cap and stock price could potentially move significantly higher. Stay tuned to this great story in 2021.

Disclosure: The author is long ZEN Graphene Solutions.

ZEN Graphene set to supply a viricidal coating for a minimum 100 million masks

written by InvestorNews | August 18, 2022

This week [ZEN Graphene Solutions Ltd.](#) (TSXV: ZEN) (“ZEN”) and Trebor RX Corp. (“Trebor”) [signed a Binding Letter of Intent](#) (LOI) that includes the initial purchase of ZEN’s patent pending graphene based viricidal coating for **a minimum of 100 million masks/filters** with pricing of these mask/filters being variable

based on a number of factors.

This news follows the highly successful testing of ZEN's graphene based silver colloidal coating [announced](#) on September 22, 2020. Some of the announcement highlights are shown below:

- ZEN's Virucidal ink is [99% effective](#) against the COVID-19 virus.
- ZEN's [Virucidal ink was still 99% effective](#) a minimum of 35 days after application to N95 mask material.
- ZEN is now developing plans to expedite commercialization of this product, pending regulatory approval.
- [ZEN has filed a provisional patent](#) for this graphene-based virucidal product.....
- Very significant virucidal activity was recorded and reported, achieving 99% inactivation of the virus for both samples in 3 separate tests each and verified through a second round of testing..."

But back to the latest potentially game changing news for ZEN of the LOI for a minimum of 100 million masks/filters from Trebor. An order of this size for a relatively small company like ZEN is highly significant. Greg Fenton, ZEN's Chief Strategy Officer, [commented](#) (Nov. 9, 2020):

"This is a historic day for ZEN. **The signing of this significant commercial agreement is a watershed moment for our organization.** Moreover, it is an honour for ZEN to partner with a Canadian company like Trebor and develop a 100% Canadian solution in the fight against the COVID-19 pandemic. The innovation of the Trebor Pro+ Respirator Mask will set a new standard in the mask industry and, combined with our viricidal coating, will bring a new level of safety for our front-line workers...."

Trebor's CEO George Irwin agreed [stating](#): "This is truly a game changer in the PPE space...."



PR0+ Respirator Mask

It looks like the market also agrees with ZEN, up [358%](#) over the past 1 year, and up 293% since I wrote “[ZEN Graphene Solutions moves towards commercialization of virus-killing mask](#)” back on September 8, 2020.

ZEN Graphene Solutions stock price is up 358% over the past 1 year, and up 293% since September 8, 2020



[Source](#)

What we know so far is that ZEN and Trebor have signed a LOI and that Trebor is a Canadian personal protective equipment mask manufacturer with an initial production facility located in Collingwood, Ontario, Canada. The announcement on the binding LOI includes several key points:

1. Initial first year production is planned to use ZEN's patent pending graphene based viricidal coating for **a minimum of 100 million masks/filters.**
2. Pricing of these mask/filters being variable based on a number of factors.
3. This initial minimum order is for the first year and is **subject to Health Canada approvals.**
4. ZEN's viricidal coating will be used on Trebor's patent pending Pro+ Respirator Mask (Pro+) N95 mask and also on their 3-ply surgical mask.

For now, we can only speculate on what the commercial terms would be and what other agreements may follow. What we do know is that the global market demand for face masks is enormous, certainly in the billions. Some have even called the face mask

[‘the world’s most valuable commodity’](#). It is estimated that production of the highly protective [N95 face masks in the United States](#) alone will increase to 180 million units per month by the end/winter months of 2020.

Demand for face masks is only increasing as global new COVID-19 cases continue to accelerate higher



[Source](#)

Under a Biden presidency it looks highly probable that face masks will be viewed more positively than what happened under Trump. Back in June 2020, CNN [quoted](#): “Biden says he would make wearing face masks mandatory for Americans amid coronavirus pandemic.” This week Biden has announced a new [COVID-19 taskforce](#) to begin work immediately and continue after he is sworn in as president on January 20.

Global daily new cases of COVID-19 have been accelerating and are now averaging **a staggering 600,000 new cases per day**, for a total of [over 52 million cases now globally](#).

All of this should lead to very strong demand for face masks in the year ahead.

Beyond COVID-19 ZEN has many other potential areas and deals to commercialize their graphene. Some recent deals include a collaboration agreement on [Carbon Aerogels with German Aerospace Centre](#) and a partnership with [the Royal Canadian Navy](#) and Evercloak to test Graphene Oxide Dehumidification Membrane Technology.

To meet all this new demand ZEN has had to [double their lab space](#) starting January 1, 2020 and [announced](#) this week that ZEN will lease a 25,680 square feet space in Guelph, Ontario to

become become ZEN's new manufacturing facility and corporate headquarters. ZEN [stated](#): "The company expects to begin initial production in Q4 2020 for incorporation into masks, other PPE and for HVAC filters and prefilters."

A summary of ZEN Graphene Solutions



[Source](#)

Closing remarks

ZEN Graphene Solution's management is doing a tremendous job. Pivoting in 2020 to produce a viricidal graphene coating was a genius move. Of course COVID-19 will come and eventually go, but demand for industry leading graphene products looks set to boom this decade as the world learns more about the wonders of graphene.

ZEN Graphene Solutions has a market cap of C\$139M and right now appears to have the world at their feet.

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