

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

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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.

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).

Bristow goes with technology and selects the stock to watch in 2022

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Welcome to 2022! I’m cautiously optimistic that this will be the year we get to put Covid in the rear-view mirror and get on with life without always waiting for the next shoe to drop (or a new variant to take hold). I’m happy to put 2021 in the history books and anticipate the bright future that could be. In that vein, I’d like to look ahead to what I think could be an exciting story for 2022. Now don’t get me wrong, I’m not saying this is my top pick or suggesting it will go up. This is simply my perspective on a company that has a lot going on that could be rewarded by the market this year.

The path of least resistance, after this week’s market action, would be to pick a uranium stock. Between how this group performed in 2021 and even more impressively, the first couple of trading days of 2022, it would certainly make for an easy article to write. I’m also a fan of junior base and precious

metal mining companies, especially ones with plenty of results pending, but not today. The future is technology, so my exciting stock for 2022 is a technology company that posted a respectable 35% return in 2021 but is well positioned for 2022. It also happened to evolve out of a junior mining exploration company so it's the best of both worlds.

If you haven't figured out what company I'm talking about yet, it's [Zentek Ltd.](#) (TSXV: ZEN), formerly known as ZEN Graphene Solutions Ltd. There is so much going on at Zentek it's hard to know where to start. The Company currently describes itself as 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 ZENGuard™, 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 commercializing partner for a newly developed aptamer-based rapid pathogen detection technology. But that's just the tip of the iceberg in my opinion.

The near-term catalyst is all about the antimicrobial coating ZENGuard™, which was developed as a virucidal graphene-oxide ("GO") based compound to be applied as a coating onto fabrics, which included personal protective equipment such as face masks in an effort to increase protection afforded by such products. In September 2021 the Company received [Health Canada approval](#) for the sale of ZENGuard™ coated masks and entered into a binding definitive [license and supply agreement](#) with Trebor Rx Corp. for the supply of ZENGuard™ to coat face masks and potentially other health care products. To date, Trebor has purchased, and the Company has delivered, quantities of ZENGuard™ coating sufficient for the production of 10,000,000

masks currently done via third parties. However, development is underway of the Company's industrial scale facility to produce ZENGuard™ and to coat materials. The Company anticipates assembly and installation of the industrial scale production equipment to be completed during Q1 2022, at which point production is expected to commence while commissioning, optimization and production ramp-up occurs over the following two to three months. Once this industrial process is in operation, the Company expects the production capacity of ZENGuard™ to increase significantly.

Zentek recently closed a bought deal public offering and a non-brokered private placement for aggregate [proceeds of C\\$33 million](#) to assist in the build out of their facility as well as research and development, acceleration of business growth opportunities and working capital. Other growth opportunities include the development of a new carbon-based nanotechnology-enhanced [icephobic coating](#) to reduce ice accretion. The Company anticipates applications for aircraft, wind turbines, ocean vessels, and building structures to increase safety and efficiency outcomes in ice-forming weather conditions. In late November Zentek announced it had been awarded an R&D test contract through the Innovation Solutions Canada Testing Stream to [test ZENGuard™ coated HVAC filters](#) with interest from 3 different units within the National Research Council of Canada. Other innovations include the [development of a stable diesel fuel additive](#), which increased the performance of diesel fuel by up to 10% in initial testing.

There is an awful lot going on at Zentek so I would encourage you to go check out their [website](#) to learn more because I've only scratched the surface of this stock to watch in 2022. Granted it's not a small cap with a market cap of roughly \$466 million after the closing of the latest capital raise earlier this week. Nevertheless, there are plenty of near-term catalysts

with having their own production facility operational in the next few months and some pretty creative and unique opportunities being developed to propel this Company into the future.

Zentek is well positioned to commercialize several revolutionary nanotech graphene health products in 2022

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[Zentek Ltd.](#) (TSXV: ZEN) (formerly ZEN Graphene Solutions Ltd.) is a trail blazing company in the world of nanotechnology and graphene, particularly in the healthcare sector. That is because not only does it make its own graphene but Zen has also partnered with other companies to expand the uses of graphene in areas such as (graphene coated) masks clothing, and other PPE, as well as COVID-19 rapid saliva tests, graphene colloidal antiviral/bacterial/fungal detection, and, hopefully, improved air purifiers, and air conditioning systems using graphene filtration.

Zentek summarizes this by saying that “Nanotechnology and graphene have the potential to protect against pathogens, detect and treat disease, clean our water, make building materials stronger and produce cleaner energy. With almost limitless

potential to improve people's lives, we are uniquely positioned to create significant value through our next-generation healthcare solutions and beyond.□”

Zentek is currently focusing on commercializing into health care prevention, detection, and treatment



Source: [Zentek Company presentation](#)

Zentek's vision is for a healthier and safer world through nanotechnology, and its mission is to develop innovative nanotechnologies, with their partners, that improve people's lives. What a great basis to grow a company from.

Zentek's stock price has risen [281%](#) over the past year after more than quadrupling the year before. From the March 1, 2020 low of C\$0.30 the stock **has risen a whopping 20.7x**, now sitting at [C\\$6.20](#). Tesla and some junior lithium stocks are the only stocks I know that have achieved a 20x return in the past 2 years. This puts Zentek up there with the most elite performers on the stock market in recent times.

What's next for Zentek

- **A Nasdaq listing** – On October 13, 2021, Zentek (then ZEN Graphene Solutions) [announced](#) that it has submitted an application to list its common stock on The Nasdaq Capital Market® (“Nasdaq”) and that it has retained Donohoe Advisory Associates, LLC, to assist with the listing process. That process is ongoing with no listing date yet announced.
- **ZENGuard™ international patent application to complete soon.** ZENGuard™ is a graphene-silver ‘coating’ with 99% antimicrobial activity, including against COVID-19. Zentek

is commercializing ZENGuard™ with mask manufacturer, Trebor Rx, to produce masks, filters and gloves. ZENGuard™ is Health Canada approved. Zentek's coating can also be used on all types of personal protective equipment including masks, gloves, clothes, and shields to reduce the spread of pathogens including COVID-19. Similar products can be used in air purification systems. There is also the potential (if approved) to use similar compounds as pharmaceutical products against infectious diseases.

- **Zentek's Pathogen Detection Technology (aptamer-enabled) initially for COVID-19 to be launched by [01, 2022](#).** Zentek has the [worldwide exclusive rights](#) to commercialize a rapid, saliva-based COVID-19 antigen testing technology. The key differentiating factor here is that the test can detect much lower quantities of virus compared to other tests, thereby being able to potentially detect low viral loads at the early stages of infection when the patient may be asymptomatic. The test is exceptionally accurate (similar to current PCR tests), saliva-based, affordable, scalable and provides results in under 10 minutes. The test still requires final Health Canada and FDA approval. Zentek recently [announced](#) the development of an improved aptamer with a higher binding affinity for the COVID-19 Delta variant as well as reduced result production time of the aptamer-based sensor from 18 hours to 30 minutes with more consistent results. Zentek also [announced](#) this month that it "has been selected as one of three technologies for phase 1 of the Innovation Solutions Canada (ISC) challenge to develop a portable detection device for SARS-CoV-2 in wastewater. ZEN has received a \$148,000 award from ISC to develop its first prototype."

Zentek CEO, Greg Fenton, recently [stated](#): "In collaboration with our partners, including Dr. Li and his entire McMaster team, we

have made tremendous progress advancing our aptamer-based rapid detection platform toward commercialization. A key aspect of the technology is its adaptability through the production of new aptamers to detect different pathogens leveraging the existing platform – and the process of building out this aptamer and disease-detection library is well underway with our colleagues at McMaster.”

ZENGuard™ has enormous potential to scale up from current capacity of coatings for 32 million masks per month to a potential [~800 million masks per month by Q1, 2022](#)



Source: [Zentek Company presentation](#)

Closing remarks

Zentek has come a long way in the past 2 years with enormous technological progress in its graphene based nanotechnology products with a renewed health focus to prevent, detect, and, hopefully, soon treat pathogens, including COVID-19. This has been achieved via a number of collaborations, partnerships, patents, and approval by regulatory bodies.

The result of all these efforts should now start to show in 2022 as Zentek’s commercial rollout of its innovative nanotech graphene products gains speed, led by its revolutionary ZENGuard™ coating and the company’s rapidly advancing Pathogen Detection Technology collaboration.

Zentek trades on a market cap of C\$551 million and continues to outperform the market.

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

ZEN Graphene is changing the world one nanomaterial at a time

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Scientists have not unanimously settled on a precise definition of nanomaterials, but agree that they are partially characterized by their tiny size, measured in nanometers. A nanometer is one millionth of a millimeter – approximately 100,000 times smaller than the diameter of a human hair. For a while, nanomaterials were going to save the world by making everything faster, stronger and maybe even higher. But Olympic motto aside, there was a lot of hype about nanomaterials and a decade(s) later not much to show for all that optimism. Or maybe there is if you look in the right places.

Nano-sized particles exist in nature and can be created from a variety of products, such as carbon or minerals like silver, but nanomaterials by definition must have at least one dimension that is less than approximately 100 nanometers. One such company that is making progress in the world of nanomaterials is [ZEN Graphene Solutions Ltd.](#) (TSXV: ZEN), despite starting life as a mining company. In fact, the Company still maintains its unique [Albany Graphite Project](#), which provides the company with a potential long-term competitive advantage in the graphene market. The unique genesis of the Albany deposit, resulting in very fine-grained graphite crystallites, yields an ideal graphite precursor material for conversion to high-value graphene, graphene oxide and graphene quantum dots that can be

used in a wide variety of applications.

However, don't kid yourself into thinking this is a mining story. It is very much a technology story that has evolved out of the special characteristics of the graphite available at the Albany deposit. ZEN has a broad reach as far as solutions being derived from nanomaterials. Front and center is the ZENGuard™ antimicrobial coating which can be utilized on PPE, filtration media (HVAC filters) and other materials such as paper, cardboard etc. as a preventative 'catch-and-kill' mechanism. The Company has developed a non-toxic, antimicrobial coating that is [99+% effective against numerous pathogens](#), including COVID-19, with initial testing showing a further 98% effectiveness after 108 days. ZENGuard™ on masks, gloves and other PPE to protect front-line workers, the public and reduce the spread of pathogens (including and beyond COVID-19) has an estimated global market of US\$52 billion. While the potential market for ZENGuard™ on air filters to kill airborne pathogens in homes, schools, hospitals and commercial and industrial spaces is estimated at US\$66 billion. Not a bad starting point.

As a spin-out from the focus on everything COVID-19, ZEN recently [announced exclusive worldwide rights](#) to commercialize rapid, saliva-based COVID-19 antigen testing technology in partnership with McMaster University. This technology is exceptionally accurate (similar to current PCR tests), saliva-based, affordable, scalable and provides results in under 10 minutes. It appears we aren't going to rid ourselves of this pesky virus anytime soon. So perhaps the best solution to getting on with some semblance of normal is accurate, rapid testing.

Being an optimist and looking beyond COVID-19 and hopefully no other mutation or pathogens running amok in public, we find that ZEN has [developed a stable diesel fuel additive](#), which increased

the performance of diesel fuel by up to 10% in initial testing. Greg Fenton, ZEN CEO commented: "With global market estimates for diesel fuel alone near \$1 trillion, the size of the challenge to reduce emissions from this level of demand is massive, but so is the opportunity for novel solutions to help us be more efficient in our usage." Regardless of whether you want zero emissions tomorrow, as long as everyone continues to order stuff off Amazon and you want fresh fruit in your grocery store, diesel demand is going to be with us for a while. So rather than be an environmental zealot, why not embrace solutions that help reduce emissions in the interim until we can finally achieve our ultimate goal. Which is a good segue into research ZEN is doing into lower-cost, reduced weight, higher performance and capacity energy storage applications by developing graphene-wrapped silicon anodes for Li-ion batteries.

Then there's the classic stereotype of nanomaterials making everything better. ZEN has its fingers in corrosion protective coating for reduced corrosion and enhanced longevity for steel. Polymers that enhance strength, longevity, and conductivity that can be used as versatile replacements for metallic electromagnetic shields. There's also enhanced strength and electrical conductivity aluminum for the automotive industry and enhanced strength and longevity cement based composites for the construction industry. I'm probably missing something but you get the picture.

On a final note, on June 16th ZEN and Trebor Rx Corp. provided an update on the [Health Canada review process](#) for the ZENGuard™-enhanced, ASTM level 3 surgical mask. Clearly, the sooner they can get approvals and get mask production underway, the sooner they can start to realize the revenue from the [Trebor agreement](#) signed in November 2020 or a minimum of 100 million masks/filters. As a prospective investor, this is the news I'm

eagerly awaiting.

ZEN Graphene proves product superiority of face masks and investors respond.

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Despite a recent setback in perception [ZEN Graphene Solutions Ltd.](#) (TSXV: ZEN) continues to power ahead with the stock up an impressive 30% in the last two weeks. Readers may recall a [Health Canada announcement](#) on April 2nd announcing a warning about face masks containing graphene or biomass graphene. This was a perfect springboard for ZEN Graphene to differentiate themselves from the competition and prove the superiority of their product. Health Canada warned, “There is a potential that wearers could inhale graphene particles from some masks, which may pose health risks.” Not surprisingly, ZEN’s stock price gapped down in trading that day on above average volume as investors threw the proverbial baby out with the bath water.

Investors (with a reasonable level of risk tolerance) who’ve done their homework on ZEN Graphene would have recognized this as a buying opportunity. Why? Not all graphene face masks are created equal. ZEN actually came out [in support of the Health Canada](#) measure, stating it is aligned and supportive of the steps taken to regulate the use of graphene and remove products that are unsafe for the public. Their confidence is based on the fact that Nucro-Technics (a world-renowned testing facility) has performed extensive testing for cytotoxicity, irritation and

skin sensitization and shown that ZEN's product is safe. As well, the company's partner in the face masks, Trebor Rx Corp., has also completed considerable testing on the masks and has successfully passed Canadian requirements as a level 1 Medical Device for ASTM Level 1, 2 and recently, level 3, the highest level for surgical masks. Finally, additional information requested by Health Canada following the April 2 advisory has been submitted by ZEN and Trebor and it is expected the current review will be concluded in an expedited manner.

During this whole process, the company was still able to complete an oversubscribed [private placement](#) that started at \$2 million and ultimately raised \$4.3 million. It would appear at least some investors aren't overly concerned about the Health Canada warning. So if readers are now reasonably confident that the Health Canada warning is in the rear view mirror and unlikely to negatively impact ZEN Graphene, then why would you as an investor want to dig deeper into being a ZEN Graphene shareholder?

Results and upside of course. On March 29th InvestorIntel's [Matthew Bohlsen wrote about](#) the successful testing of ZEN's graphene compound against antimicrobial-resistant bacteria (including SARS-CoV-2) as well as the above noted [cytotoxicity tests](#) and [Health Canada mask approval](#). He also addressed ZEN's plans to expand current capacity to supply the demand from Trebor Rx from 4 million coated disposable masks per month to 32 million per month by June and further to 800 million masks per month by November. That is actual demand today that the company has realistic plans to achieve. If that isn't upside enough, then all you have to do is look at the product pipeline which includes exam and single-use gloves, as well as the air filtration market.

I can bombard you with plenty of large numbers here that paint a

picture of incredible upside but I'll simply highlight a few key points and let you do your own homework. First off, all the products in the current pipeline are disposable, mostly single use. Second, Covid-19 has brought attention to the whole PPE market but for the products ZEN Graphene is looking to provide, demand won't go away once the virus has been brought under control (whatever that looks like). Lastly, the large numbers are very large for global PPE like masks and gloves.

However, the proof is ultimately in the bottom line. The company has set out a plan to start generating revenue (of which it had none as at Dec 31, 2020) and reasonable, timely growth plans. They currently have over \$5 million of cash and current burn rate of roughly \$2 million per quarter depending on the incremental costs to build out mask production capacity. It's hard to compete with the support and confidence shown by the team at ZEN Graphene during the Health Canada issues. If their product is really that good it should start to show up on the bottom line sooner than later.

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

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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 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).*