

# Focused on a better future, Siva's cancer tumor therapy system selects Sona's gold nanorod for delivery

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Today we are going to talk about a company that is making progress in the targeted treatment of cancers without much of the harmful effects of radiation treatments. Drugs and radiation used in treatment of cancers, while effective at killing tumor cells, cause damage to organs and healthy cells. Traditional methods of radiation treatment involve non-selective irradiation, damaging the normal tissue surrounding a tumor as well as the cancerous cells. Unfortunately, a lot of these side effects are a necessary evil when dealing with the far more insidious damage that can be done by cancer, but perhaps there is hope a better future.

One company working towards a better future is [Sona Nanotech Inc.](#) (CSE: SONA | OTCQB: SNANF). Sona is a nanotechnology life sciences firm that has developed multiple proprietary methods for the manufacture of various types of gold nanoparticles. Their principal business is the development and application of its proprietary technologies for use in multiplex diagnostic testing platforms that will improve performance over existing tests in the market. Sona Nanotech's gold nanorod (GNR) particles are CTAB (cetyltrimethylammonium) free, eliminating the toxicity risks associated with the use of other gold nanorod technologies in medical applications. It is expected that Sona's gold nanotechnologies may be adapted for use in applications, as a safe and effective delivery system for multiple medical

treatments, subject to the approval of various regulatory boards, including Health Canada and the FDA.

As proof that the Company is advancing its cancer treatment technology, Sona [recently announced](#) that it has entered into an agreement to supply certain gold nanorod material to Siva Therapeutics, Inc., a developer of advanced, 'in-vivo' therapies for treating cancer. Siva Therapeutics' Targeted Hyperthermia™ cancer Therapy (THT) is being developed to be an elegant, safe and effective cancer treatment that generates therapeutic heat within solid tumors using gold nanorods with an infrared light device. THT has multiple beneficial effects on tumors, and it is more selective than chemotherapy, less destructive than radiation, and without the risks of surgical treatment. In addition to being more affordable and more effective, this technology could deliver faster results than current cancer treatments. Siva has completed successful small animal studies for THT and is preparing to undertake large animal studies in 2023 before beginning human clinical trials for colorectal and possibly other cancer tumors.

Dr. Len Pagliaro, Ph.D., CEO of Siva, commented, "Sona's biocompatible gold nanorods are the ideal material for use with Siva's cancer tumor therapy system. Gold nanorods offer the highest efficiency of energy transfer and Sona's are the only ones we have found globally that don't use toxic CTAB in their manufacturing, assuring safety for 'in-vivo' medical applications." This is probably why Sona will be issued US\$150,000 worth of stock in Siva and the term of the agreement is for ten years. Both positive endorsements for the GNR technology and for Sona.

Other developments going on at Sona include a rapid screening tool to help farmers combat the threat of Bovine Tuberculosis in herds, which is being developed with a consortium of companies

as part of a Canada/UK industrial research and development program. It has cost the tax payer [£500 million to control the disease in England](#) in the last 10 years. It is estimated that the costs of bovine TB control will [top £1 billion over the next decade](#), if no action is taken. There is also a concussion test for mild traumatic brain injury that aims to detect a series of biomarkers enabling the screening for mild concussions. The test is intended to detect the presence of GFAP (Glial Fibrillary Acidic Protein), a biological marker associated with concussions, typically released into the bloodstream within minutes of an impact to the head. This could be a tremendous benefit to society as a whole, particularly children. But the capitalist in me is thinking about how much the NFL would pay for a product that could see a player be cleared to resume play in a matter of minutes, or perhaps help the Miami Dolphins team medical staff keep their jobs by not putting Tua Tagovailoa back out on the field when they shouldn't have.

There's a lot of interesting stuff going on at Sona Nanotech. With a market cap of just C\$7 million, any success could translate well for investors.

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**David Regan of Sona Nanotech talks about developments in its unique gold nanorod**

# technology

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In this InvestorIntel interview with host Tracy Weslosky, [Sona Nanotech Inc.](#)'s (CSE: SONA | OTCQB: SNANF) CEO David Regan talks about the promising properties of gold nanorod technology and the use of nanoparticles in the human body for advanced medical applications.

In the interview, which can also be viewed in full on the InvestorIntel YouTube channel ([click here](#)), David discusses the many potential applications of Sona's nanoparticles and how its gold nanorods are uniquely created with no toxins and are more suited for medical uses such as implantation into the body. David also says he expects to receive shortly a new [research and development study](#) of this technology from Dr. Warren Chan's Integrated Nanotechnology & Biomedical Sciences Laboratory at the University of Toronto.

David also talks about [attracting world-class talent](#) to Sona Nanotech's board, including Neil Fraser, past chair of Medtech Canada, and Dr. Walter Strapps who served as Chief Scientific Officer of Gemini Therapeutics. They join Sona Nanotech director Mark Lievonon, former President of Sanofi Pasteur Limited.

To access the full InvestorIntel interview, [click here](#)

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## About Sona Nanotech Inc.

Sona Nanotech is a nanotechnology life sciences firm that has developed multiple proprietary methods for the manufacture of various types of gold nanoparticles. The principal business carried out and intended to be continued by Sona is the

development and application of its proprietary technologies for use in multiplex diagnostic testing platforms that will improve performance over existing tests in the market. Sona Nanotech's gold nanorod particles are CTAB (cetyltrimethylammonium) free, eliminating the toxicity risks associated with the use of other gold nanorod technologies in medical applications. It is expected that Sona's gold nanotechnologies may be adapted for use in applications, as a safe and effective delivery system for multiple medical treatments, subject to the approval of various regulatory boards, including Health Canada and the FDA.

To learn more about Sona Nanotech Inc., [click here](#)

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If you have any questions surrounding the content of this interview, please contact us at +1 416 792 8228 and/or email us direct at [info@investorintel.com](mailto:info@investorintel.com).

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# **ZEN Graphene Solutions moves towards commercialization of virus-killing mask**

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**ZEN is collaborating with partners to develop virucidal face masks and PPE**

Back in May 2020 InvestorIntel [wrote](#) about the very exciting development of masks and other personal protective equipment (PPE) that not only protect the wearer, **but actually kill viruses on contact**. to help . Since then the development of a "graphene virucidal ink face mask" and PPE has been progressing nicely in the fight against COVID-19.

In late July 2020 [ZEN Graphene Solutions Ltd.](#) (TSXV: ZEN)

("ZEN") [reported](#) that research teams at a number of personal protective equipment (PPE) manufacturers are collaborating with ZEN to incorporate ZEN's virus-killing graphene ink into commercial products, including masks, gloves, gowns and other clothing. This follows ZEN's promising testing results from the University of Western Ontario's ImPaKT Facility, biosafety Level 3 lab.

ZEN has synthesized a 'silver nanoparticles functionalized graphene oxide ink' that has been documented by previous researchers to kill earlier versions of coronavirus. Silver is well known to be a potential virucidal agent.



***Photo: iStock***

In July ZEN reported in a [news release](#) that the company "continues to optimize its proprietary formulation for dosage and delivery mechanism for highest antiviral impact. **The next phase of testing is currently underway** at the ImPaKT Facility and includes a preferred mask fabric, from one of our collaborators, coated in ZEN's virucidal ink exposed to and tested against the COVID-19 virus."

Dr. Francis Dubé, CEO of ZEN, [commented](#) that "Based on results so far and our discussions with the team at Western, we are quickly moving to integrate our material into commercial products with partners who wish to increase the level of COVID-19 protection their products currently offer."

Given the world needs at least [3.5b](#) N95 face masks to fight COVID-19, the potential demand for ZEN's graphene based virucidal ink face mask could be enormous. If the new virucidal mask captured just 10% market share of the 3.5 billion masks needed that would mean manufacturing and selling ~350 million masks. Or even if just made mandatory for health care workers

globally, the market would be very large, as there is an estimated [59 million health care workers worldwide](#). Each health care worker would need a number of masks per year. The revenue opportunities could be enormous if ZEN's graphene based virucidal ink is licensed on a per unit basis. Added to this would be the potential for use in other PPE. For a small company such as ZEN the potential revenue upside could be highly significant.

Tests are still underway to improve and prove the effectiveness of the virucidal masks, but CEO Dubé's public comments about integrating ZEN's material into commercial products with partners indicates a positive outcome is looking increasingly possible.

Last week ZEN [announced](#) that it will "report shortly on significant progress being made in multiple programs, one of which has resulted in the preparation of a patent filing that is central to ZEN's business plan." Zen also announced receiving **significant funding grants**: "two NSERC Alliance COVID-19 project grants, a Mitacs Elevate Postdoctoral Fellowship grant, and two Mitacs Accelerate grants for a total of \$355,000 to its university collaborators," which increased ZEN's total research and development budget for the next 12 months to over \$1.4M.

## **Graphene's potential**

Graphene is a new wonder material with incredible potential to be commercialized in a huge number of products. These are as diverse as graphene coatings that can greatly improve corrosion resistance, increase strength, reduce friction and can be hydrophobic reducing ice formation (aerospace and aircraft industries). As a diesel/jet fuel additive it can improve fuel economy and reduces greenhouse emissions. It is also useful in electromagnetic shielding and electrostatic dissipation,



desalinization membranes and low-energy dehumidification, heavy metal scavenging and removing industrial contamination, photovoltaics, displays & biomedical applications using graphene quantum dots, [virucidal inks](#), as a material enhancement (clothes, tire strengthener, concrete additive), hydrogen storage and production, and advanced batteries. Samsung is developing an [advanced graphene phone battery](#). Graphene is super lightweight and also strengthens aluminum, rubber, plastics and other materials, making its list of applications almost endless.

**The graphene market is forecast to grow at a 39-45% CAGR this decade**



[Source](#): Company presentation

### **Closing remarks**

In addition to its advanced application projects, **ZEN owns a graphite mine** and has commenced small scale graphene [production from their facility](#) in Canada, and has numerous other [potential uses](#) to commercialize their graphene product. At the current market cap of just C\$31m the stock is not yet pricing in any chance of significant success in the virucidal mask and PPE market, or in the larger graphene market. This is good news for investors looking for underappreciated and early stage stocks. If ZEN is able to successfully commercialize its viricudal mask/PPE or other graphene products, it would be a game-changer.