Revolutionary Aptamer-Based Pathogen Technology from Zentek Unveils Rapid and Inexpensive Pathogen Detection Capabilities

written by InvestorNews | August 3, 2023

A Canadian company and their laboratory partner have developed a low cost simple and much faster way to better detect pathogens causing infections in our bodies. In recent weeks the team found a way to dramatically improve the effectiveness of this technology, which is really a medical breakthrough you won't likely see on the news, at least not just yet. Their technology uses 'aptamer' based diagnostics from a simple saliva test.

What is an aptamer?

Aptamers are short sequences of artificial DNA, RNA, XNA, or peptide that bind a specific target molecule or family of target molecules. In the case of today's company, they are using single-stranded DNA molecules capable of binding specifically with target proteins on the surface of pathogens such as SARS-CoV-2 to detect if a person has COVID-19 or potentially other pathogens.

Zentek Ltd.

Zentek Ltd. (NASDAQ: ZTEK | TSXV: ZEN) ("Zentek") is a certified graphene technology company focused on the research, development and commercialization of graphene-based novel products,

typically using nanotechnology.

Zentek's aptamer-enabled **Pathogen Detection Technology** is a low-cost, rapid, saliva testing, scalable technology initially to be used for COVID-19 testing, but can be adapted to detect other pathogens. Zentek has exclusive worldwide rights to commercialize their COVID-19 antigen testing aptamer-enabled technology. The technology is being developed by Zentek and their technology partners at McMaster University Li Lab, led by Dr. Yingfu Li.

Zentek's collaboration with McMaster University extends beyond its exclusive license and now encompasses all aptamer and DNAzyme uses, including diagnostics, therapeutics, and neutralization agents, not limited solely to SARS-CoV-2 applications.

Aptamer technology breakthrough, up to 250 times increase

Zentek recently announced a breakthrough in the team's aptamer-enabled technology, stating:

> *"Dr. Yingfu Li and his team at the Li Lab have developed a novel aptamer technology that increases the binding affinity of aptamers by up to 250 times. The increased binding affinity enhances the limits of detection for aptamer-based diagnostics. In addition, the enhanced binding affinity may lead to the successful adaptation of these same aptamers for new therapeutic and prophylactic treatments. Binding affinity is a key metric in both diagnostic and therapeutic applications."*

Understandably most people will not understand the implications of what is going on here, so I will spell it out. Effective

Aptamer-based pathogen technology opens up a whole new potential to ‘rapidly and cheaply’ detect pathogens. In time this can be expanded to potentially detect other markers of disease in the body. Furthermore, it has the potential to more effectively treat diseases. But that’s the next chapter, best discussed another time and assuming Zentek continues down that pathway.

Dr. Yingfu Li recently stated:

> *“The novel aptamer technology platform developed in my lab at McMaster University is demonstrating a robust increase in binding affinity to every aptamer we have tried so far. Combining this technology with aptamers that have high specificity* ***has created a very exciting potential for new therapeutics and diagnostics****. The enhanced binding affinity from these new aptamers has led to* ***consistent and successful in vitro testing*** *in my lab and the lab of Dr. Leyla Soleymani for diagnostic applications, and more recently, with in vivo testing in the lab of Dr. Matthew Miller for therapeutic applications. These early results are very exciting, and we look forward to future work that applies the technology to other potential therapeutic and diagnostic targets.”*

Note: Bold emphasis by the author.

The advantages of Zentek’s aptamer technology for detecting Covid-19 or potentially other pathogens



The advantages of Zentek's aptamer technology are:

- **Simplicity & Comfort** – uses saliva rather than a nasal swab reducing aversion to testing and risk of error in the sampling process
- **Accuracy** – electrochemical sensing technology rather than lateral flow allows for sensitivity equivalent to a 36 count RT PCR
- **Mobility** – simple hardware lends itself to easy transport and high throughput, point-of-care testing
- **Speed** – results in under 10 minutes
- **Low Cost** – aptamers can be developed more quickly and cost effectively compared to antibodies allowing us to be highly competitive compared to currently available rapid detection tests now and into the future
- **Scalability** – new aptamers can be developed to detect numerous other pathogens giving our technology the ability to enhance safety and empower businesses, governments and our healthcare providers well beyond COVID

Source: Zentek website

The potential for aptamer-based disease detection is truly remarkable. There is also potential one day that aptamers can be used to much more precisely target disease treatment or prevention in the body.

Greg Fenton, CEO of Zentek commented:

> *"Initially, we were working to develop aptamers for diagnostic purposes……Dr Li's initial breakthrough was important for diagnostic purposes, and now early testing points to the potential to create new therapeutics and prophylactics. I can't emphasize enough how unexpected these results were to our team and how significant this development is if it is confirmed through future testing."*

For more details, investors can watch the recent Zentek CEO interview here.

Zentek is now at the stage of commercializing their aptamer-enabled technology stating that they are "*commercial prototyping*

readiness, and working with [Halteres Associates](), a world-leading bioscience consultancy, to assist us in our commercialization process.“

Zentek’s product pipeline



Source: [Zentek company presentation]()

Closing remarks

There is no more exciting company than Zentek. Apart from their aptamer technology Zentek has many other applications for their graphene nanotechnology including: [ZENGuard™]() (a graphene coating applied to PPE to prevent Covid and other infections; also used for air filtration (HVAC) systems), [icephobics]() (to prevent ice build up on planes etc), ZENArmor (corrosion resistance), [fuel additives]() (helping reduce carbon emissions), [Graphene-wrapped silicon anodes](), [conductive inks](), [intumescent coatings](), and [anti-inflammatory therapies.]()

Furthermore, Zentek makes their own graphene oxide at their Guelph facility and owns the Albany Graphite Deposit (planned to be spun out).

Zentek Ltd. trades on a market cap of C$216 million. With commercialization of ZENGuard™ underway and Zentek's aptamer technology potentially to follow soon, Zentek is at a great stage to rapidly grow from here. Stay tuned in 2023 to see how Zentek performs and if they can successfully start to monetize their technology.

Sixth Wave Innovation moves its IXOS gold extraction technology forward with USD$50M+ multi-stage contract

written by Tracy Weslosky | August 3, 2023

Until recently Sixth Wave has been a company with very promising technology but has been looking to turn that into dollars (revenue). That has now changed and could lead to a boost in the company's fortunes.

Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: SIXWF) ("Sixth Wave") is a nanotechnology company. The company's technology focuses on 'detecting, capturing, and releasing' of target substances at the molecular level using specialized 'molecularly imprinted polymers' ("MIPs"). Six Wave is in the process of commercializing its Affinity™ cannabinoid purification system,

AMIPS™ virus/bacteria detection, as well as their IXOS® extraction polymers for the gold mining industry. All of these are based on Sixth Wave's MIPs technology which can detect, capture and release almost any target molecule.

Source: Sixth Wave Innovation website

On September 12, 2022, Sixth Wave announced that it and Magnus Mineral Resources (PVT) Ltd had signed a USD$50M+ contract for the implementation of its IXOS Mining Technology at the Penhalonga Gold Mine and beyond. The announcement stated that Sixth Wave has signed "a three phase test and implementation contract… that will field SIXW's patented IXOS® molecular imprinted polymer for extraction and purification of gold and silver… at the Penhalonga Gold Mine, Zimbabwe. Additionally, Magnus Resources plans to build and deploy three smaller processing plants to assist regional artisanal mining groups in Zimbabwe." The company goes on to say that one of the benefits of using its extractive technology is to change "artisanal mining operations from dangerous and environmentally destructive practices involving mercury amalgamation."

The first phase of the agreement involves laboratory extraction and recovery testing. The second involves pilot-plant process design, engineering, implementation for gold recovery from oxides; as well as delivery/commissioning of three portable VAT leach adsorption/desorption/recovery plants that are capable of processing 100tpd of ore. The third phase will involve the testing and optimization of extraction for the transitional and refractory ore present at the mine.

While it is still early days and a lot needs to be achieved, Sixth Wave now has a pathway towards achieving significant revenue and a project to demonstrate that their technology is

effective at scale in real world conditions. Plenty of risks still exist in terms of fulfilling the contract as well as Zimbabwe's country risk.

The key advantages of Sixth Wave's IXOS technology is that it has a high gold recovery (average 95%), it recovers gold with 90% less cyanide usage than conventional cyanidation, and has reduced energy requirements which lower processing costs.

It is often the case when new technology comes along there will be some resistance to change. However once it has been demonstrated to be effective at scale then the disruption begins, meaning others begin to seriously consider and adopt the technology. We have seen this with electric vehicles and we may be about to see this with gold mining via Sixth Wave and Magnus Resources' plan to deploy the IXOS MIPs technology in Zimbabwe.

If the project succeeds this should open the door to numerous other opportunities for Sixth Wave Innovations. Investors can be excited given this opportunity in the mining sector, not to mention all the other areas of opportunity across multiple sectors where Sixth Wave's multi-purpose MIPs can be effective.

Sixth Wave Innovations trades on a market cap of just C$5.4M. Will this be the turning point for the company? Time will tell and some patience is required. But it certainly looks very promising.

Disclaimer: *The editor of this post may or may not be a securities holder of any of the companies mentioned in this column. None of the companies discussed in the above feature have paid for this content. The writer of this article/post/column/opinion is not an investment advisor, and is neither licensed to nor is making any buy or sell recommendations. For more information about this or any other company, please review all public documents to conduct your own*

due diligence. To access the InvestorIntel.com Disclaimer, click here

---

Nanotechnology value hunters look at Sixth Wave Innovations

written by InvestorNews | August 3, 2023

After the last few days and weeks, it seems almost pointless talking about any company that is publicly traded as it is probably getting crushed, or if you are lucky, only moderately beaten up. However, in times like this you have to look past what the market is doling out on a day to day basis and think about the bigger picture. Perhaps you don't want to be buying today, trying to catch the proverbial 'falling knife', or maybe we are close to a bottom. I don't have a clue. What I do know is that what has happened year to date is not going to prevent me from buying stocks in the future, so I always want to have a giant 'watch list' that I can prioritize when everything goes on sale. Even though it may seem like this is the sale that never ends.

That's why, when there's a broad market sell off like the one we are currently enduring, it's fun to go looking for stocks that are almost free. In this case I'm talking about a company that is trading at an all time low stock price, below $0.10/share, and market cap of roughly C$11 million, both of which suggest there could be potential for plenty of upside should any of its several business lines gain traction. I'm talking about Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: SIXWF), a nanotechnology company with patented technologies that focus on

extraction and detection of target substances at the molecular level using highly specialized Molecularly Imprinted Polymers (MIPs). The Company is in the process of a commercial rollout of its Affinity™ cannabinoid purification system, as well as, IXOS®, a line of extraction polymers for the gold mining industry. The Company is in the development stages of a rapid diagnostic test for viruses under the Accelerated MIPs (AMIPs™) label. Sixth Wave can design, develop and commercialize MIP solutions across a broad spectrum of industries for which the Company has products at various stages of development.

Given where we currently stand in the pandemic, the name of the company is a little coincidental, but we need to look beyond that to the investment thesis. Like many companies at the onset of COVID-19, they transitioned to pursue a better way of detecting the virus. In December, 2021 the Company announced it had successfully demonstrated selective binding and detection of live SARS-CoV-2 virus in saliva samples using its patent-pending AMIPs™ technology, which could lead to a handheld breathalyzer system. This might have you thinking, "who cares, the pandemic is over". But the development and learning from this process has led to a partnership with TraceSafe Inc., to use patented MIPs for imprinting, capturing, and detecting substances at the molecular level to provide an effective and proactive prevention and containment strategy for deadly viruses and pathogens in animals. If you think about the Avian Flu resulting in the culling of tens of millions of chickens and turkeys across the U.S. and Canada at present, there could be plenty of opportunity here. In fact, a widespread bird flu outbreak in 2005 raised alarm bells and prompted the US Senate to allocate US$4 billion to prepare for a possible influenza pandemic.

Another active business line is the Affinity™ Extraction Process, an extraction solution specifically designed to extract

THC and/or CBD from cannabis/hemp crude for the production of pure THC and CBD compounds. For Cannabis Producers, the Affinity™ unit is designed to capture and extract Cannabinoids to ensure the purest end product. The system replaces antiquated processes including winterization, distillation and chromatography. The highly scalable Baseline unit is designed to produce approximately 20 kg of cannabinoid distillate or full spectrum distillate per day and each unit is capable of generating gross revenues to Sixth Wave of up to $100K/month. Agreements are in place for the delivery of four machines, with the first of the three systems to Green Envy Extracts before the end of fiscal Q3 2022 (May) while an MOU for the fourth unit was signed with Quantum Labs of New Mexico in January, 2022.

The third potential revenue stream could come from IXOS®, a line of extraction polymers formulated for deployment in the gold mining industry for the extraction of gold from cyanide leach solutions. It is designed to be more selective, more efficient, have higher capacity, and offer environmental benefits compared to current processing methods. Sixth Wave's recent patent award and previous work with lithium, nickel, cobalt, rare earth elements, and platinum group metals point to similar potential that has proven successful in gold and silver mining. To that end, the Company has been engaged by Champlain Mineral Ventures to develop a "green" mining process for lithium from its Brazil Lake deposit. The Company has also submitted proposals to government entities and commercial mining companies to exploit its intellectual property for these critical metals with non-dilutive grants and contracts. This success is translating into a stream of small revenue generating contracts as mining companies move to test IXOS® in the Company's laboratories as well as with on-site pilots.

As you can see, Sixth Wave has a lot of opportunities

percolating, with some potentially reaching a level where they could be providing the Company with revenue in the not too distant future. Sixth Wave just raised C$2.6 million in March, which should buy them a little more time to achieve that goal. In the meantime, the stock is on sale, along with almost every company that has anything to do with technology. Not to say the stock price can't go lower, but it is almost free right now.

Dr Jon Gluckman provides an update on Sixth Wave Innovations' pathogen detection technologies

written by InvestorNews | August 3, 2023

In a recent InvestorIntel interview, Tracy Weslosky spoke with Dr. Jon Gluckman, President and CEO of Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: SIXWF) about Sixth Wave's virus detection technology for SARS-CoV-2 and about their partnership with TraceSafe Inc. for the detection of viruses and pathogens in animals.

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), Dr. Gluckman said that Sixth Wave's virus detection technology is based on molecular imprinted polymer and "…can detect the COVID-19 virus and all its variants, at levels that are better than immunoassay tests." He went on to highlight the growing instances of disease outbreaks in animals caused by viruses and

pathogens that can impact our food supplies. Dr. Gluckman also explained how Sixth Wave is working with TraceSafe to develop a first-of-its-kind solution that can prevent and contain deadly viruses and pathogens in animals and provide real-time updates across the entire food supply chain.

To watch the full interview, click here

About Sixth Wave Innovations Inc.

Sixth Wave is a development stage nanotechnology company with patented technologies that focus on extraction, purification, and detection of target substances at the molecular level using highly specialized Molecularly Imprinted Polymers (MIPs). The Company is in the process of commercializing its, IXOS®, a line of extraction polymers for the gold mining industry.

Sixth Wave can design, develop, and commercialize MIP solutions across a broad spectrum of industries. The company is focused on nanotechnology architectures that are highly relevant for detection, purification, and separation of viruses, biogenic amines and other pathogens, and nutraceuticals for which the Company has products at various stages of development.

To learn more about Sixth Wave Innovations Inc., click here

Disclaimer: *Sixth Wave Innovations Inc. is an advertorial member of InvestorIntel Corp.*

This interview, which was produced by InvestorIntel Corp., (IIC), does not contain, nor does it purport to contain, a summary of all the material information concerning the “Company” being interviewed. IIC offers no representations or warranties that any of the information contained in this interview is accurate or complete.

This presentation may contain “forward-looking statements” within the meaning of applicable Canadian securities legislation. Forward-looking statements are based on the opinions and assumptions of the management of the Company as of the date made. They are inherently susceptible to uncertainty and other factors that could cause actual events/results to differ materially from these forward-looking statements. Additional risks and uncertainties, including those that the Company does not know about now or that it currently deems immaterial, may also adversely affect the Company’s business or any investment therein.

Any projections given are principally intended for use as objectives and are not intended, and should not be taken, as assurances that the projected results will be obtained by the Company. The assumptions used may not prove to be accurate and a potential decline in the Company’s financial condition or results of operations may negatively impact the value of its securities. Prospective investors are urged to review the Company’s profile on Sedar.com and to carry out independent investigations in order to determine their interest in investing in the Company.

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.

Will Sixth Wave’s fast and

accurate breathalyzer revolutionize global pathogenic virus testing?

written by InvestorNews | August 3, 2023

I'm hopeful that we will soon see this whole COVID issue become an endemic as opposed to a pandemic, and life as we know it, can return to something a lot more like it was before this annoying virus became the bane of our existence. Whether continued mutation of the virus allows us to get on with life or not, we need to be better prepared for the future, so we can get a handle on things sooner and keep the economy rolling, keep the kids in school and get rid of this whole division of society over masking and vaccinations. I've suggested in past articles that, in my opinion, effective, reliable rapid testing could go a long way to resolving this, and any potential future viruses that come along. However, after getting my hands on the current generation of rapid tests and using them a few times to visit family and friends over the Holiday Season, I find it necessary to add one more descriptor – convenient. I actually stopped going out because the thought of jamming that swab up my nose again brings tears to my eyes and a bit of a queasy feeling.

But what if I told you there is a company out there that is on its way to developing a rapid breathalyzer test that can identify COVID and potentially many other viruses. I know it has certainly caught my attention. Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: SIXWF) utilizes unique applications of nanotechnology called Molecularly Imprinted Polymers (MIPs) for imprinting, capturing, and releasing substances at the molecular level. The technology has applications in multiple areas with a current focus on the recovery of gold, explosives detection,

metabolite extraction and medical diagnostics for viruses. Sixth Wave can design, develop and commercialize MIP solutions across a broad spectrum of industries. The company is focused on nanotechnology architectures that are highly relevant for the detection and separation of viruses, biogenic amines, and other pathogens, for which the Company has products at various stages of development.

I'll try to briefly explain how this works without getting into too many hard-core science details given it's mostly over my head. Viruses have unique chemical profiles that result in different shape, size, and surface chemistry characteristics. Sixth Wave designs polymerizable ligands specifically to take advantage of the size, shape and surface chemistry of a target virus or target class of virus to achieve selectivity and sensitivity in diagnostic applications.

Source: Sixth Wave Innovations Inc. Corporate Presentation

They say a picture is worth a thousand words, but I suspect the diagram above would be a lot more than that if I could properly explain it. My simple analogy is that you build a puzzle with one specific piece missing and the only puzzle piece that will fit in that spot is the COVID-19 virus (or whatever virus or family of viruses you selected to fit your polymer puzzle). If you have the correct piece of the puzzle, it will indicate a positive result. If that doesn't make sense to you then you can go to the Company's website and do some more digging on your own because that's the best I've got.

Beyond the science, here is where Sixth Wave currently stands in its mission to stem the tide of emerging outbreaks quickly in order to prevent worldwide pandemics in the future. On December 14th the Company announced it had successfully demonstrated

selective binding and detection of live SARS-CoV-2 virus in saliva samples using its patent-pending Accelerated Molecularly Imprinted Polymer (AMIPs™) technology. The next and final stage of laboratory-based development is to expand testing to a standardized panel of respiratory viruses to confirm that there is no cross-reactivity (or false positives as near as I can tell). Completion of the cross-reactivity testing is the last scientific development step required to produce specificity data before the Company can begin the process of applying for regulatory approval from government agencies such as the U.S.'s FDA and Health Canada.

Sixth Wave's technology overcomes problems that impact current methods to test for COVID-19 that require using biological materials (antibodies) to detect the virus. PCR, Polymerase Chain Reaction, tests are expensive, generally require unpleasant nasal swabs, and rely on laboratory analysis to return results, and as we've seen of late this has completely overwhelmed the system resulting in several days to get results. Rapid antigen tests are faster but significantly less accurate, are also somewhat unpleasant (at least to me) and diminish in effectiveness as the virus mutates. Compare that to a handheld breathalyzer that could be used multiple times by the same user for easier, less expensive, less wasteful testing. Sixth Wave envisions its unit would have a disposable biosensor (cartridge) that is simply replaced upon a positive detection or after a predetermined sampling time if there is no positive detection.

Personally, I really hope that Sixth Wave can get this technology to the finish line as I think it would be a great benefit to society as a whole. Then there's the potential impact on the share price if they are the ones to come up with the de facto, go-to gadget for simple, convenient and inexpensive virus testing. With a current market cap of C$27 million and trading almost at its all-time low share price, this could be quite the

game-changer for Sixth Wave Innovations.

Sixth Wave hits the market with MIP coatings and sensors for the biodetection of viruses and bacteria

written by InvestorNews | August 3, 2023
Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: SIXWF) ("Sixth Wave") is a nanotechnology company focused on the 'detection and extraction' of target substances at the molecular level using specialized molecularly imprinted polymers (MIPs).

Sixth Wave's nanotechnology uses MIPs to detect and extract almost any target molecule

Source: Sixth Wave Innovation website – About MIPs

There is a huge list of potential industries that can benefit from Sixth Wave's MIP technology; however key areas of interest for now for Sixth Wave are health (rapid COVID-19 detection), cannabis production (cannabinoid purification), security, gold and lithium extraction.

AMIP COVID-19 test with improved sensitivity

Announced on August 19, 2021, Sixth Wave has improved the sensitivity and capability of its leading-edge nanotechnology

AMIP to detect the presence of the COVID-19 virus at levels below 1,000,000 virus particles/mL. Dr. Garrett Kraft, Vice President of Innovation at Sixth Wave, stated: “Hitting this level of detection is a huge achievement for us. With this technical milestone, we are fulfilling the sensitivity requirements for many of our intended end-use applications for high throughput screening.”

Note: Accelerated Molecular Imprinted Polymers (AMIPs) are rapid acting MIPs.

The clinical significance of a more sensitive test is the potential to detect COVID-19 earlier and in patients that are asymptomatic, when lower levels of the virus may be present. According to Grandview Research, the global COVID-19 diagnostics market size was estimated at USD 84.4 billion.

Sixth Wave is quickly moving through a program of development and scale-up milestones toward a wide range of AMIPs virus rapid detection devices.

MIP coatings and sensors for biodetection of viruses and bacteria

Sixth Wave recently announced that they have filed for a patent for their MIP coatings and sensors for biodetection. The patent focuses on the synthesis and processing of MIPs containing detection elements for viruses and bacteria. Sixth Wave state: “The patent will be solely in the name of Sixth Wave, who will have exclusive ownership of the IP, subject to a reasonably agreed-upon license fee. The work with York University is an expansion of Sixth Wave’s efforts with the AMIP product line and focuses on detecting both viral and bacterial-based pathogens in fluid samples.”

This could potentially be a huge business one day for Sixth Wave

given the global need for rapid detection of viruses and bacteria.

More about Sixth Wave

Sixth Wave has collaborated for research and testing with some of the largest entities in the chemical, resources, education, security, defense and medical sectors. Sixth Wave's systems are all patented or patent pending in 40+ countries worldwide.

Sixth Wave's key product names are IXOS® (a line of extraction polymers for the gold mining industry), Affinity™ (for the cannabis industry), and AMIPs (for sensitive and rapid COVID-19 testing). Sixth Wave recently announced an Affinity system has been shipped from the contract manufacturer and is on the way to Sixth Wave and then onto the first customer, Green Envy Extracts.

Other prospective products in development include a wide range of AMIPs Virus/Bacteria rapid detection devices, Personal Protective Equipment applications such as SIXW's Smart Mask™ (see news dated May 15, 2020), and smart clothing, airborne sensors, breathalyzers, ELISA-based technologies, cartridge/lateral flow designs, and others.

Closing remarks

Sixth Wave is at an exciting stage as the Company rolls out the commercialization of its Affinity™ cannabinoid purification system, IXOS® gold mining extraction technology, and soon plans the rollout of their AMIPs virus rapid detection devices and other products.

The idea of one day being able to potentially use a Sixth Wave MIP sensor to rapidly detect viruses and bacteria pathogens is quite amazing, and if it happens, would be a significant

advancement for medical diagnosis.

Trading on a market cap of just C$30 million, stay tuned for more developments from this fast-moving company.

Tremendous technologies all based around Molecular Imprinted Polymers have investors riding the Sixth Wave

written by InvestorNews | August 3, 2023

Sixth Wave continues to achieve outstanding results at detecting COVID-19 as well as the extraction of cannabinoids, gold & lithium

Innovative methods of detecting and extracting key target materials, such as valuable minerals or even harmful viruses, is a new forefront of nanotechnology.

Today's company is Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: SIXWF) ("Sixth Wave"). Sixth Wave is a nanotechnology company that was established in 2013 and has worked on developing commercial products for military and mining applications. For example, SAFE-T® is a legacy product developed

for the US Military for explosives detection, developed with internal resources and R&D funds under multiple contracts with the US Army's Combat Capabilities Development Command Armaments Center (ARDEC) and sold to elements of the US Department of Defense and allied forces.

Since that time Sixth Wave has matured the technology and the applications. Today Sixth Wave's technology has applications across multiple sectors such as mining, medical, defense, and life sciences. Sixth Wave's 3 key products are:

- Accelerated Molecular Imprinted Polymers (AMIPs) – For rapid detection of viruses
- Affinity – For cannabinoid extraction
- IXOS – For gold extraction

Source

Sixth Wave uses patented Molecular Imprinted Polymers (MIPs) for imprinting, capturing, and releasing substances at the molecular level.

MIPs use polymer synthesis techniques to create smart materials with high affinity for a target

Source: Sixth Wave Innovation website – About MIPs

The MIP technology can detect and/or extract any number of substances as widespread as the COVID-19 virus, cannabinoids, gold, or lithium.

Detection of viruses

Sixth Wave's Accelerated Molecular Imprinted Polymers (AMIPs) is

a Rapid Virus Test for the selective identification of Covid-19 that can give easy-to-read results within minutes. AMIPs will allow for high volume, point-of-use screening in public sector, private industry, hospitals, long-term healthcare facilities, and various forms of public transportation.

On June 10, 2021, Sixth Wave announced a breakthrough that they had successfully detected the UK and South African Variants of SARS-CoV-2, using two independent techniques: a color-based sensor and independently verified on a Quartz Crystal Microbalance (QCM) based AMIP sensor.

The announcement stated: "The flexibility and robustness of the AMIPs platform was demonstrated again. These preliminary results give evidence to the claims that AMIP technology is resistant to loss of efficacy due to virus mutation and new variants. By imprinting and detecting the whole virus AMIPs can be highly resistant to virus mutation."

Purification and extraction of cannabinoids in cannabis

For cannabis producers, Affinity™ streamlines the traditional processing of THC & CBD. Affinity™ uses MIPs designed to capture and extract cannabinoids to ensure the purest end product and the highest yield.

Sixth Wave recently announced they had commissioned delivery of its first Affinity™ System. It is estimated that the system will be ready for wet testing at AESI in late September and ready for shipment to the Sixth Wave's proving laboratory in Maryland shortly thereafter.

Sixth Wave plans to deliver the first commercial Affinity™ System to Oregon-based Green Envy Extracts in Q4, 2021.

Extraction of gold from tailings

Sixth Wave has developed a revolutionary gold-processing system designed for the mining industry. IXOS® is a faster, cleaner and a more cost-effective method of processing and extracting gold with a higher and purer end product than traditional activated carbon processing.

Announced on May 18, 2021, Sixth Wave executed a non-binding LOI to test Sixth Wave's patented IXOS® purification and extraction polymer on gold bearing tailings samples from the Barry-Hollinger Gold Mine (BHGM) in Eastern Ontario. The news release stated: "It is estimated there are approximately 200,000 tons of tailings on the property which have been indicated to contain up to 16,000 ounces of gold…..Sixth Wave will perform a combination of leaching and recovery tests, expected to start in June 2021, baring COVID-19 restrictions. The tailings test protocol could form the foundation for a business model that seeks to identify and recover gold from tailings at other mine sites in the Ontario mining district and throughout the world."

The global implications are enormous given the massive global tailings available from not just gold mines, but other valuable metals.

Extraction of lithium from brines such as in the Salton Sea area of California

Earlier in 2021, Sixth Wave acquired 100% of Geolithic Corp. (a JV between TriLateral and Sixth Wave). Geolithic was established in 2017 to work on the extraction of lithium from geothermal brines located primarily in the Salton Sea area of California, potentially a huge lithium resource. This has become an important area of interest as it may help the USA and others to be able to extract vast quantities of lithium, which will be needed for this decade's electric vehicle and energy storage boom.

Final remarks

Sixth Wave has several tremendous technologies all based around its Molecular Imprinted Polymers (MIPs), which can both detect and extract specific target substances.

Key areas of commercialization that are at the beginning are COVID-19 detection, cannabinoids extraction, gold from tailings extraction, and direct lithium extraction. All of these have enormous potential, as well as the potential to expand into related areas.

Sixth Wave Innovation trades on a market cap of just C$27 million and, in my view, is one of the most exciting listed junior companies on the market today. Be sure to take a deeper look at Sixth Wave.

Will Sixth Wave help prevent a fourth wave?

written by InvestorNews | August 3, 2023
Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: ATURF) is a nanotechnology company focused on extraction and detection of target substances at the molecular level. Their products can be very cost effective and potentially eliminate human error from the testing or measurement process. These advantages are derived from the application of patented technologies in the highly specialized field of molecularly imprinted polymers (MIPs).

Sounds pretty technical so what does that mean to you and me? As we battle a third wave of COVID-19 we are crossing our fingers

and hoping vaccines will save the day. Especially given, that for all the talk about rapid testing, we have yet to see an effective, accurate test used in a broad setting to help identify or track the spread of the SARS-CoV-2 virus. And who knows if all the variants that are popping up will continue to be effectively subdued by existing vaccines.

Enter Sixth Wave and their patent pending Accelerated Molecular Imprinted Polymers (AMIPs™) technology. Last week the company announced it has successfully demonstrated colorimetric detection of SARS-CoV-2. Colorimetric detection is a method of identifying the presence of a target substance within a test sample by means of color. For example, Green = COVID-19, Blue = Influenza, Red = Rhinovirus. And yes, the test could potentially identify multiple viruses in a single pass with different colors for each. Even better, the AMIPs™ test does not require the use of biological materials which have the potential to result in errors (false positive or false negative). As well, the methodology utilized by AMIPs™ should be more robust in its ability to detect variants because the mechanism used to capture and immobilize the virus is not keyed to a specific Antigen-Antibody relationship. Lastly, this robust, reliable product should result in a lower cost, either to an individual requiring a test or a government trying to get a handle on this annoyingly resilient virus.

Imagine kids going back to school and they all have a mask utilizing Sixth Wave technology. All you need to do is check each student's mask and if it's green the child gets sent home otherwise they are good to go until the next day. Now what if everyone had a mask, or some other device with AMIPs™ technology, then everyone could get back to going to sporting events, concerts or weddings. Even air travel and cruise ships would be able to operate relatively seamlessly based on the individual not being green, so to speak. This could be the

solution that gets us back to a semblance of normal.

Unfortunately, as good as this all sounds, Sixth Wave isn't the answer to all our problems just yet. Next steps include building on this initial validation toward the development of a colorimetric sensor for a potentially wide range of rapid Virus detection devices using AMIPs™. As well, the Company is proposing to create a comprehensive library of molecular imprints for other viral pathogens and variants. This AMIP library will be capable of being licensed for all manner of rapid detection test (RDT) devices and wearables, such as a smart mask, smart clothing and PPE applications, airborne sensors, Breathalyzers, and others. The groundwork has been laid but it remains to be seen if the company can capitalize on its efforts.

Nevertheless, the company has its Affinity™ System which uses MIPs to deliver an innovative purification solution to the cannabis market. First revenue from cannabinoid extraction is expected in Q1/21. As well there is the IXOS product, a line of extraction polymers formulated for deployment in the gold mining industry for the extraction of gold from cyanide leach solutions. Sixth Wave is undertaking pilot plant testing of IXOS technology at a major gold producer (Kinross Gold Corporation). The company recently raised $6M via a private placement which should give them enough cash to continue developing and innovating its product base for another 6 months, give or take. It will be interesting to see if the company can start generating revenue to reduce the cash burn and advance all these exciting prospects.

XPhyto Therapeutics Hugh Rogers on the fastest and most portable PCR test available

written by InvestorNews | August 3, 2023

In a recent InvestorIntel interview, Peter Clausi spoke with Hugh Rogers, CEO and Director of XPhyto Therapeutics Corp. (CSE: XPHY | OTCQB: XPHYF) about XPhyto's rapid point-of-care COVID-19 PCR test system which is very close to commercialization.

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), Hugh went on to speak on the different types of COVID-19 tests out of which, he said, "PCR test is the gold standard of diagnostics." He added that XPhyto's PCR test is less invasive as it is oral and requires minimal equipment and training. The test has been optimized for speed and portability. "What we have designed is we believe to be the fastest and most portable PCR test available…"

To watch the full interview, click here

About XPhyto Therapeutics Corp.

XPhyto Therapeutics Corp. is a bioscience accelerator focused on next-generation drug delivery, diagnostic, and new active pharmaceutical ingredient investment opportunities, including precision transdermal and oral dissolvable drug formulations; rapid, low-cost infectious disease and oral health screening tests; and standardization of emerging active pharmaceutical ingredients for neurological applications, including psychedelic compounds and cannabinoids. The Company has research and development operations in North America and Europe, with an

operational focus in Germany, and is currently focused on regulatory approval and commercialization of medical products for European markets.

To learn more about XPhyto Therapeutics Corp., click here

Disclaimer: *XPhyto Therapeutics Corp. is an advertorial member of InvestorIntel Corp.*

Sixth Wave's Dr Jon Gluckman on the First Polymer for Detection of SARS-CoV-2

written by InvestorNews | August 3, 2023

In a recent InvestorIntel interview, Peter Clausi speaks with Dr. Jon Gluckman, President, CEO and Founder of Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: ATURF) about their recent news: First Polymer for Detection of SARS-CoV-2

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), Dr. Gluckman went on to say that Sixth Wave is working in collaboration with the University of Alberta to develop COVID-specific Imprinted Polymers that can detect viruses even after they have mutated. Sixth Wave is currently developing this technology specifically for the COVID-19 virus but can potentially be used to detect any virus. He highlighted that the technology is low-cost, easy to use, and scalable.

Speaking on the potential implementations of their technology

Dr. Gluckman said that the technology can be used in handheld devices, wearables, and airborne detection tools. Sixth Wave is currently designing, Smart Mask™ that will use the Imprinted Polymers to detect the COVID-19 virus in the user's breath.

To watch the full interview, click here

About Sixth Wave

Sixth Wave is a nanotechnology company with patented technologies that focus on extraction and detection of target substances at the molecular level using highly specialized Molecularly Imprinted Polymers (MIPs). The Company is in the process of a commercial rollout of its Affinity™ cannabinoid purification system, as well as, IXOS®, a line of extraction polymers for the gold mining industry. The Company is in the development stages of a rapid diagnostic test for viruses under the Accelerated MIPs (AMIPs™) label.

Sixth Wave can design, develop and commercialize MIP solutions across a broad spectrum of industries. The Company is focused on nanotechnology architectures that are highly relevant for the detection and separation of viruses, biogenic amines, and other pathogens, for which the Company has products at various stages of development.

To learn more about Sixth Wave Innovations Inc., click here

Disclaimer: *Sixth Wave Innovations Inc. is an advertorial member of InvestorIntel Corp.*