

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

written by Tracy Weslosky | October 13, 2022

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.

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# Nanotechnology value hunters look at Sixth Wave Innovations

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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.

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

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**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.

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## **Sixth Wave's Dr. Jon Gluckman talks about the election and the 2nd wave of cannabis investment**

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In a recent InvestorIntel interview, Tracy Weslosky speaks with Dr. Jon Gluckman, President, CEO and Founder of [Sixth Wave Innovations Inc.](#) (CSE: SIXW | OTCQB: ATURF) about what a Biden presidential win means for an energized and revitalized cannabis sector.

"We're pretty excited," said Dr. Gluckman, "that in addition to the Biden win it was pretty clear that the referendums on the state ballots in the U.S. were extremely positive and forward-looking for the future of cannabis and the significant expansion in the United States which is obviously a huge market."

Asked about what it means, Dr. Gluckman said that Sixth Wave sees it "as a tremendous opportunity for licensed producers to

expand their footprints into different spaces and certainly for new equipment requirements which will include Affinity, so we're stoked." Affinity™ is Sixth Wave's cannabinoid purification system.

Discussing the Affinity cannabinoid purification system revenue model, Dr. Gluckman explains that it work on a "total system performance license" basis, where Sixth Wave provides the technology to licensed cannabis producers on a "small profit margin basis", but then partners to provide upgrades and maintenance in exchange for a portion of the producer's revenue stream. As Sixth Wave's Affinity optimization can save a projected 50% of a producer's production costs, this mutually beneficial arrangement can create a substantial revenue stream for both the producer and Sixth Wave.

Dr. Gluckman explains to Tracy how the application of Sixth Wave's patented Molecular Imprint Polymers ([#MIPs](#)) technology creates "consistent and high purity" cannabinoid from a producer's raw material that is essential to creating a commercial product.

Regarding revenue expectations, Dr. Gluckman said that they expect to see revenue through a deal with Green Envy as early as December, and ramping up in the first quarter of 2021. Answering Tracy's question about investors who missed the "first wave" of cannabis investment, he said that "the very interesting thing now is that what we have seen is that the growers are all growing," and that "as new states come on board they are all going to need new licensed producers." And since there are federal restrictions on interstate movement of cannabis, production will have to be local to each state, requiring multiple production facilities

"We're really looking forward to it and scaling up significantly

next year,” Dr. Gluckman said.

To watch the full interview on YouTube, [click here](#).

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# Sixth Wave Innovations leads virus detection through breath testing

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## Using nanotechnology to quickly identify pathogens

Imagine if taking a coronavirus test was as simple as an alcohol breathalyzer, or a pregnancy test, and the results just as fast. One company has developed a test that uses **molecular imprinted polymers** with the possibility of detecting almost any pathogen, and is now using their technology to develop a way to detect for COVID-19 as easily as using a saliva test or a swab test.

[Sixth Wave Innovations](#) (CSE: SIXW | OTCQB: ATURF | FSE: AHUH) is a development stage nanotechnology company with patented technologies that focus on the extraction and detection of target substances at the molecular level using highly

specialized 'molecular imprinted polymers' (MIPs). The target substances can be anything, such as pathogens (viruses & bacteria), gold, or anything made of molecules (that's every substance).

Sixth Wave has technology to make a 'polymer imprint' for molecules including viruses. Sixth Wave is working to develop a molecular imprint for the coronavirus so they can capture the virus in their polymer and then apply various techniques to detect the virus such as colormetrics or electronics.

The company is working toward incorporating the technology into a mask **so you could wear a mask that both protects and detects for COVID-19**. Another concept is to have the MIP inside a coated barcode strip which you would then scan with your smartphone to see if you have been infected or not. (See: [Sixth Wave working on a virus breath test.](#))

President, CEO and Founder Dr. Jonathan Gluckman [explained that](#) [a](#) "virus has a size and shape and we create an imprint in our polymer for that exact virus. Then we will detect that directly based on our chemistry." He continued that Sixth Wave is "working to integrate this into masks and breathalyzers and then we can just utilize the breath, as we all know that's the main transmission method. If you think about putting a mask on, not only will that mask provide protection, it can also, right there, be the test for COVID-19."

Highlighting the advantages of Sixth Wave's COVID-19 test over other tests, Dr. Gluckman also said that **the test will be cheaper, faster, less invasive, and easy to use**.

Dr. Gluckman [says](#) that Sixth Wave's COVID-19 detection technology is currently under development, but the Company has successfully launched and commercialized other products with similar properties. The coronavirus tests are planned to be

ready for an [early 2021](#) rollout. The company has received a grant from the Canadian government to work with York University and the CTRI to use its virus detection technology to detect COVID-19 virus in wastewater supplies and in air handling systems.

**Sixth Wave Innovations can detect and extract anything at the molecular level – Target markets include COVID-19 testing, gold extraction, and cannabis purification**



[Source](#)

**Sixth Wave Innovations technology can be used for other applications**

**Gold extraction**

IXOS® is a line of extraction polymers for the gold mining industry 100% developed and owned by Sixth Wave and patented/patent pending in 40+ countries worldwide. CEO Gluckman says the technology can save gold mining companies about US\$100/oz on their processing costs based on pilot scale test results for multiple mines.

**Sixth Wave Innovations IXOS® can save gold miners up to US\$100/oz in gold processing costs**



Source: [Corporate presentation](#)

**Cannabis Purification**

Sixth Wave is in the process of commercializing its Affinity™ cannabinoid purification system. The Affinity™ Technology for

the medical and recreational cannabis industry is 100% developed and owned by Sixth Wave with a patent pending. Affinity™ products [are now rolling out](#) and starting to generate revenue for Sixth Wave, including an initial 300 Affinity units.

## **Other applications**

Sixth Wave's Molecular Imprinted Polymers (MIPs) have also been applied in industries including security (SAFE-T explosives detective wipes), mining (gold & silver extraction, also removal of mercury), and other pathogen detection. The potential list of applications is enormous.

## **Sixth Wave Innovations planned revenue streams**



Source: [Corporate presentation](#)

## **Closing remarks**

History has repeatedly shown how mankind makes incredible innovative technology during incredible times. Here we are facing one of this century's greatest pandemics and scientists globally are racing to develop better diagnostic tests, treatments and vaccines.

In the case of Sixth Wave Innovations it is fast-tracking the development of an innovative technology to detect and extract polymer molecules. They are now focused on adapting their technology to make a polymer imprint of the coronavirus that can, if successful, make COVID-19 detection as simple and fast as a breath test, whether on a test strip or even on a dual-purpose face mask. Imagine wearing a face mask that can also detect COVID-19. Sixth Wave's COVID-19 detection technology targeted for early 2021, and if successful it will be a massive



win-win for the public and also for Sixth Wave Innovations.

Meanwhile, Sixth Wave will be advancing their near term revenues from Affinity™, and later hopefully from IXOS®. The current market cap of Sixth Wave Innovations is only C\$21m thereby presenting a tremendous early stage speculative opportunity for investors.