

# **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 revolutionary gold processing technology, now enters the lithium extraction race**

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In what seems like a miracle company [Sixth Wave Innovations Inc.](#) (CSE: SIXW | OTCQB: ATURF) ("Sixth Wave") has the technology to detect and/or extract any number of substances as widespread as SARS-CoV-2 (the virus that causes COVID-19), cannabinoids, gold or lithium. The applications for this technology are potentially enormous.

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).

**Sixth Wave's MIPs can detect COVID-19**

On April 14 Sixth Wave [announced](#) that they were now able to demonstrate [colorimetric detection of SARS-CoV-2](#) utilizing Accelerated Molecularly Imprinted Polymers (AMIPs). The images below best show how it works.

**The image on the left shows the AMIPs™ polymer having been exposed to SARS-CoV-2 (COVID-19) with the fluorescent highlights indicating the presence of the virus (positive). The image on the right shows the AMIPs™ polymer having been exposed to a non-infected sample (negative)**



#### [Source](#)

Sixth Wave MIPs are also used in cannabis extraction and processing. In April 2021 Sixth Wave [entered a Letter of Intent \(LOI\)](#) with Halucenex Life Sciences Inc. for the separation of compounds such as psilocybin, baeocystin, and others using MIPs used in Sixth Wave's Affinity™ cannabinoid purification system.

**Sixth Wave's Affinity™ cannabinoid extraction technology for the cannabis industry**



[Source](#): Sixth Wave Innovation website

**Sixth Wave's technology gaining traction in the extraction of valuable minerals such as gold from mine tailings**

On May 18 Sixth Wave [announced](#) that it has executed a non-binding LOI to test their patented IXOS® purification and extraction polymer on gold bearing tailings samples from the Barry-Hollinger Gold Mine (BHGM) in Eastern Ontario. 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. Sixth Wave [state](#): “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.”

### **Sixth Wave's IXOS extraction technology for the gold mining industry and others**



[Source](#): Sixth Wave Innovation website

### **Sixth Wave's technology for the extraction of lithium from geothermal brines**

In April, Sixth Wave [announced](#) the acquisition of 100% of the outstanding common shares of Geolithic Corp. Sixth Wave [stated](#): “Geolithic was established in January of 2017 as a joint venture between TriLateral and Sixth Wave to exploit the latter's technology for the extraction of lithium from geothermal brines located primarily in the Salton Sea area of California. The Salton brines are renowned for their elevated levels of lithium and represent one of the largest untapped sources of lithium in the world.” This move by Sixth Wave to acquire 100% of Geolithic reflects Sixth Wave's confidence in both the technology and the opportunity. With lithium demand set to surge [10-11x](#) this decade I certainly see this as a wise strategic move.

### **Closing remarks**

Referring to their nanotechnology, Sixth Wave say they have “the smallest solutions to the world's largest problem”. That certainly seems very true given their nanotechnology has proven effective at detecting COVID-19.

Whilst it is still very early stages for Sixth Wave Innovation on a market cap of just C\$33 million the potential for this small company is indeed large. If they can go on to successfully commercializing their miracle technology in either of the health or mining sectors then I would expect Sixth Wave would potentially get a whole lot bigger. Stay tuned to this very exciting company in 2021.

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## **Biden's win brings a "green" market wave and cannabis extraction team attracts the Sixth Wave**

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**"Waves are inspiring not because they rise and fail, but because each time they fall. They never fail to rise again." – Josh Billings**

The Democratic "blue" wave failed to materialize during the recent U.S. elections but the "green" cannabis wave continues to build. Five states (Arizona, Mississippi, Montana, New Jersey, and South Dakota) easily passed ballot initiatives for the legalization of either recreational or medical cannabis use.

Currently, the medical use of cannabis is legalized in 35 states



and the recreational use of cannabis is legalized in 15 states. Although federally illegal in the U.S., there is speculation that the Biden win is an important first step on the path towards the federal decriminalization of cannabis.

In the U.S., medical and recreational cannabis sales are on pace to exceed US\$15.5 billion by the end of 2020, an increase of approximately 40% over 2019, and grow by 30% in 2021.

To meet the higher demand, technology advancements have manifested in all parts of the supply chain, especially in the extraction and purification process.

## **Extraction**

The three main methods of cannabinoid extraction are (1) ethanol or alcohol extraction; (2) hydrocarbon extraction, using butane or propane; and (3) carbon dioxide ("CO2") extraction. If higher purity levels are required, a distillation process, often using chromatography technology, can increase purity levels into the high 90%.

As the industry shifts into pharmaceutical-grade production to meet medical and cannabis-infused products, cannabis extract producers continue to search for innovative ways to improve the purity of cannabinoid isolates and control costs.

One of the challenges for cannabis extract producers is that organic material has varying properties from batch-to-batch and a potential processing risk when scaling operations.

## **Sixth Wave – Cannabis Extraction Using Nanotechnology**

[Sixth Wave Innovations Inc.](#) (CSE: SIXW | OTCQB: ATURF) is a nanotechnology company focused on the detection and extraction of target substances (e.g. cannabinoid, gold, or Covid-19) at the molecular level using patented technologies.

Led by a team of PhDs and scientists, Sixth Wave's Affinity™ System uses a proprietary Molecular Imprinted Polymers technology in the process of extracting cannabidiol ("CBD") and tetrahydrocannabinol ("THC") from hemp and cannabis.

The extraction process uses porous polymer beads and the polymer is designed to attract a specific molecule. As CBD and THC are both molecules, Sixth Wave created proprietary polymers to specifically target those molecules in the extraction process.

### **Benefits of Sixth Wave's Technology**

Unlike other batch processes that purify components out of a product in various stages, Sixth Wave's process can take a wide variety of input materials, run it through the solution, and the polymer will selectively extract the specific cannabinoids. The resulting cannabinoid isolate can be up to 99.9% pure.

Chromatography, the legacy technology for purifying cannabinoid extractions, is considered to have issues with high capital and operating costs, efficiency, and scalability.

The Affinity™ System was designed to be highly automated and user friendly, requiring minimal training and human intervention. The system uses lower-cost components, minimizes the need for intermediate batch processing, and can be operated continuously, making it a more cost-effective solution.

Dr. Jonathan Gluckman, President and CEO of Sixth Wave, said, "As we know, a major challenge for the cannabinoid purification industry will be the delivery of customization and flexibility, with medicinal and recreational applications demanding exceptional product diversity. The Affinity™ System is highly capable in this regard, with the potential to tailor extraction media to recover any one of the hundreds of cannabinoids available to us."

## **Market Size**

According to a recent study, the cannabis extraction market is expected to be worth US\$28.5 billion by 2027, growing at 16.6% annually.

The growing legalization of cannabis in various countries and the use of CBD and THC for treating illnesses such as arthritis, anxiety, and nausea are the main factors driving growth.

Sixth Wave is currently working with several customers designing larger processing capabilities. In April, the Company announced an agreement with Green Envy for the purchase of a minimum of three Affinity™ extraction units. It expects to deliver the first revenue-generating system to Green Envy by the end of this year. Expect more deals to be announced as the Company shifts from development to production.

The Company is well funded as it recently closed a \$1.15 million financing and intends to use the proceeds for the deployment of its Affinity™ cannabis extraction units as well as for other general corporate purposes.

**Time to jump on Sixth Wave to ride the resurging cannabis trend.**



[SOURCE](#)