Sixth Wave Innovations leads virus detection through breath testing

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.

Rapid and accurate testing the key to a return to normalcy

And here are three companies working on it.

Imagine a global pandemic caused by a new virus. Apparently it has been around for 6, 8 or 10 months and may or may not have come from China (depending on which expert is talking on any given day).

The symptoms are multiple (and variable and inconsistent between infected people, or so it seems) and the test for it is a long nasal swab inserted into your body that is uncomfortable at best but usually quite painful.

Then imagine that the test results (none of which may be accurate) take 2-6 days and may come back as:

- Positive
- Negative
- False Positive
- False Negative

Oh, and apparently, there is also a blood test for antibodies which would tell you if you had the virus… but actually there are many (unreliable) blood tests that may produce the same range of four results as above.

Exhausted yet? We all are, as the current pandemic has set the world on its ear, crippled the global economy and created an undeniable environment of fear.

However, there are glimmers of hope for accurate testing which would allow the world to get back to an almost pre-virus life. Instead of waiting days for suspect results, companies are focusing on technology using quick, accurate, inexpensive and technologically proven procedures that do not require highly trained staff or expensive equipment.

Three Canadian public companies are at the forefront of developing these new, non-invasive, technology driven coronavirus tests that will be accurate, eliminate (mostly) the need for that sketchy nasal swab, and provide nearly instant, accurate results.

Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: ATURF)

The newest entrant in the public markets, Sixth Wave began trading in February 2020 after a previous merger with another public company and subsequent financings, etc. Current market capitalization is approximately C$26 million.

Sixth Wave is a development stage nanotechnology company with patented technologies that focus on extraction and detection of target substances at the molecular level using highly specialized Accelerated Molecularly Imprinted Polymers (AMIPs). Since every substance has a unique size, shape and chemical properties, these attributes can be utilized at the individual molecule level to create highly efficient adsorption/detection media to solve problems that cannot be

solved with conventional means.

What does this mean? In simple terms, they can detect anything at the molecular level and this technology has already been successfully deployed in both the cannabis and gold mining industries. In practical terms, by using AMIPs, Six Wave's technology could be used to detect COVID-19 in airborne, water and wastewater environments. Further, successful development of their technology could also be rolled out to provide accurate, almost immediate testing for the coronavirus in individuals.

Sixth Wave (along with its partners) recently received approval from the Natural Sciences and Engineering Research Council of Canada to advance virus detection technology testing using AMIP. Successful testing could optimistically be completed before year-end with an available product possible for market in early 2021. A publicly available product could be as simple as a face mask that changes colour if positive for COVID-19.

Sona Nanotech Inc. (CSE: SONA | OTCQB: SNANF)

Sona Nanotech is a well-established public company whose technology development of gold nanorods started back in 2013. The company went public in 2018 and has a current market capitalization of approximately C$677 million, although this has jumped dramatically since February 2020 as a result of the coronavirus pandemic.

Gold nanorods have multiple uses, but the potential for providing near-instant results has very much excited the market. Using lateral flow assay technology testing (comparable to a home pregnancy test), a positive or negative test for coronavirus can be determined without the need for specialist lab equipment or operators. In April 2020, Sona

tested a working prototype of the test in a hospital laboratory environment with live, COVID-19 patient samples, achieving positive results. Further testing is underway and of course government approvals will be required

The company's analytical test still requires the dreaded nasal swab for the evaluation source material, but results should be more accurate and available in minutes.

XPhyto Therapeutics Corp. (CSE: XPHY | OTC: XPHYF | FSE: 4XT)

Originally created for the cannabis industry, Xphyto Therapeutics has subsidiaries in Alberta and in Germany. Established in late 2017, the company went public in mid-2019 and has a current market capitalization of approximately C$190 million. The company had a strong share price prior to the coronavirus pandemic due to its other products, but application of related technology has caught the market's attention.

Since starting in the cannabis space, the company has branched out in Germany with strategic acquisitions/development agreements in diagnostics and therapeutic films. In part due to the arrival of the coronavirus pandemic, the company first initiated an infectious diseases program in February 2020 which was directly transferable to developing a low-cost, "real time" oral pathogen screening platform for COVID-19 in March 2020. By July, the company had confirmed successful function of its proprietary COVID-19 RNA probes and its universal coronavirus RNA probes in prototype lateral flow assay testing. Visual confirmation of test results was observed in five to seven minutes.

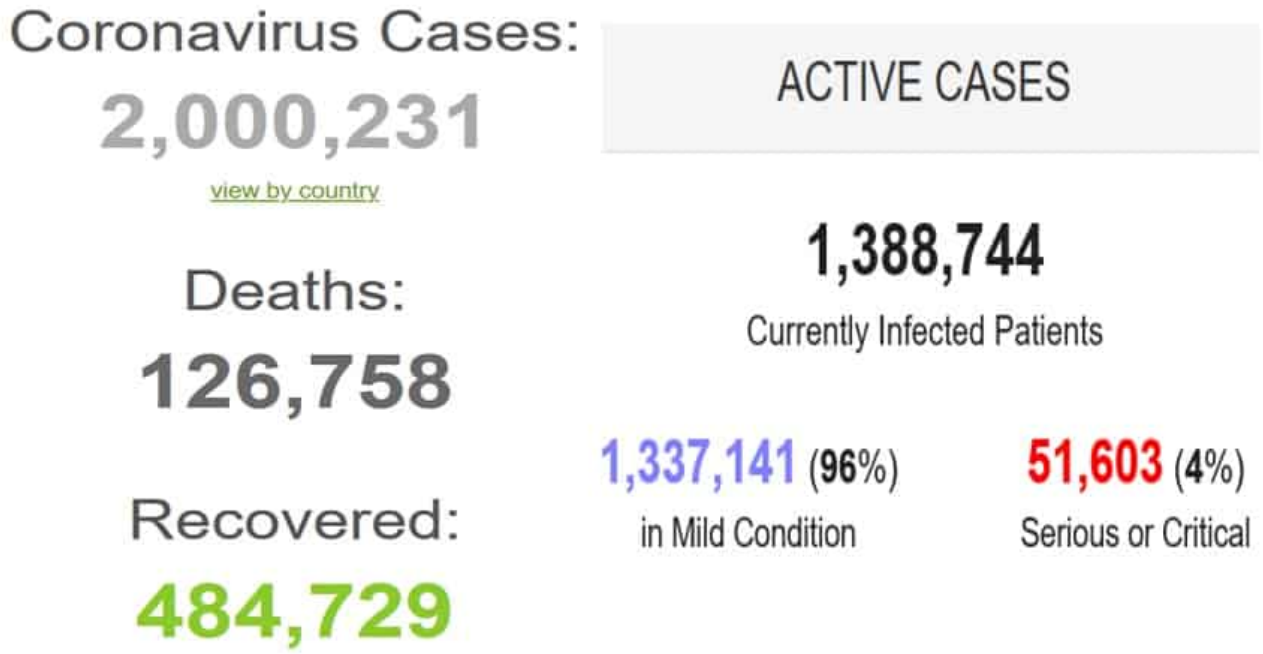
Short of an actual vaccine, rapid and accurate testing continues to be the Holy Grail in the world-wide response to COVID-19 and the key to a return to economic and social

normalcy. These are among the companies to watch with innovative testing technologies.

COVID-19 cases hit 2 million, a look at coronavirus prevention companies

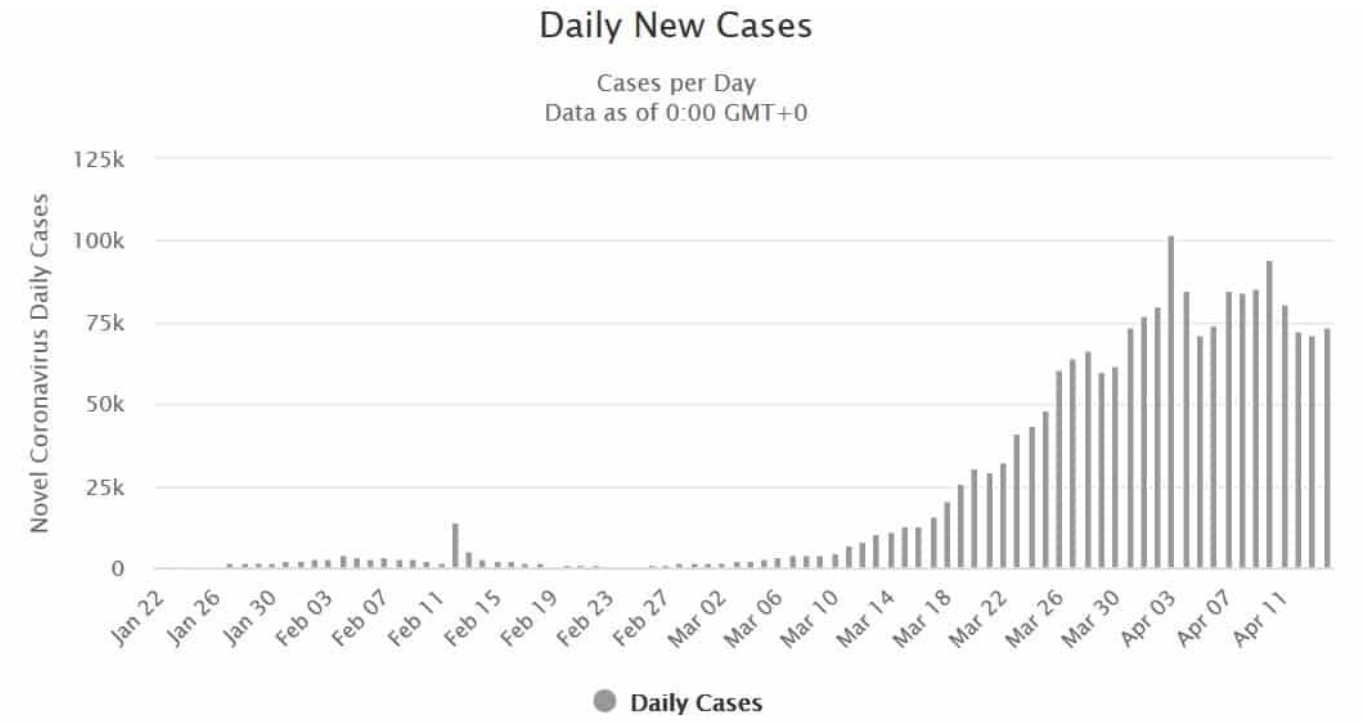
COVID-19 cases globally have hit 2 million! There are now 2,000,231 reported COVID-19 cases worldwide, with 126,758 deaths and 484,729 recovered, as of April 15, 2020. The US continues to lead with a total of 614,246 cases and 26,064 deaths. Today we look at some of the companies involved in COVID-19 prevention.

Global coronavirus cases hit 2 million of which almost 1.4 million cases are still active



Global daily coronavirus cases appear to be plateauing and

maybe decreasing



Source

What’s next with coronavirus?

Previously we discussed the coronavirus treatment companies, and those leading the race to make vaccines. Today we look at some different ways to prevent coronavirus and the companies involved.

Coronavirus prevention companies

Face mask and protective clothing companies (ideally the N95 face mask)

The N95 (or higher, E.g: N99) face masks are the industry standard of masks that are effective at blocking coronavirus. The global N95 mask market is forecast to grow to US$382 million and at a CAGR of 9% from 2020 to 2024.

- **3M Company (NYSE: MMM)** – The U.S. government and 3M have a plan to produce 166.5 million masks over the next three months to support health-care workers in the United States. They will primarily come from its manufacturing facility in China. 3M plans to make 2 billion N95 masks globally within the next year.
- **Honeywell International Inc. (NYSE: HON)** – Is a world leading brand in personal protection equipment including protection from airborne particulates, and the manufacture of N95 masks.
- **Kimberly-Clark Corporation (NYSE: KMB) –** An American company that manufacturers diapers, tissues, paper towels, incontinence care products, surgical gowns, and disposable face masks.
- **Prestige Ameritech (private)** – An American manufacturer of face masks, respirators, medical goggles, surgeons masks, and other products.
- **Alpha Pro Tech Ltd. (NYSE: APT)** – Is a Canadian company developing, manufacturing and marketing a line of disposable protective apparel and infection control products for the clean room, industrial, pharmaceutical, medical and dental markets. They also make face masks.
- **Lakeland Industries Inc. (NASDAQ: LAKE)** – Is an international protective clothing provider. Its key products include disposable protective clothing, chemical protective suits, fire fighting and heat protective apparel, as well as face masks.
- **Teleflex Incorporated (NYSE: TFX)** – Manufactures

diagnostic and therapeutic procedures in critical care and surgical applications, as well as a face mask maker.

Even GM has starting making face masks, as well as numerous other global companies, many based in China.

Some hand sanitizer companies

The global hand sanitizer market is expected to grow from US$ 1.2 billion in 2019 to US$ 2.14 billion by 2027, at a CARG of 7.5% during the forecast period 2019-2027.

- **Edgewell Personal Care Company (NYSE: EPC)** – The maker of 'Wet Ones'. They also make feminine, skin, pet and sun care product.
- **Reckitt Benckiser Group PLC (LN: RB | OTC: RBGLY)** – The maker of well known products Dettol and Lysol.
- **Johnson & Johnson (NYSE: JNJ)** – As a global leading personal care manufacturer they make sanitizers and disinfectants.
- **Unilever PLC (NYSE: UL | LN: UN)** – Is a global leading consumer products company. They own a huge number of well known brands. They make soap and hand sanitizer.
- **The Procter & Gamble Company (NYSE: PG)** – Is a well known American maker of diapers, home cleaning supplies, including hand sanitizers.

Even France's Danone (FR: BN | OTCQX: DANOY) and New Zealand's Fonterra Co-operative Group Limited (NZ: FCG) have started to get involved. Other well known but private companies are Haggard & Stocking Associates Inc., Gojo Industries Inc. and Vi-Jon Inc.

Closing remarks/What's next?

New daily global coronavirus cases have started to plateau and perhaps even decrease. With much of the global economy crippled, governments are looking at ways to loosen restrictions and re-start their economies. China and South

Korea have both led the way in terms of ‘flattening the curve’, and the Chinese economy is now back to work. A few European countries are now loosening restrictions. Those countries include Italy, Spain, Austria, the Czech Republic and Denmark.

As restrictions are lifted the importance of personal protection using face masks, hand sanitizers, and the use of social distancing will become more important. The companies involved in these areas should do well over the next 6 months as the world tries to get back to normal again.