

The Perfect Market Storm: Critical Materials, Cleantech and COVID-19

There seems to be a misguided notion (with some) that isolation means we have more time to waste. Far from reality, I am certain that many of you, like me are looking at your inbox wondering where or how to wade into the depth of quality deals and opportunities upon us...

Would like to kick your morning coffee off with a special nod to our longstanding friends from Avalon Advanced Materials Inc. (TSX: AVL | OTCQB: AVLNF) whose \$AVL soared 50% yesterday. We have been supporters of #Avalon since Don Bubar first did an interview with me in 2009 (with Jack Lifton) and introduced me to rare earths. And indeed, there is news flow in the rare earths a-n-d throughout the critical materials sector that is literally ricocheting from source-to-source online...

How to follow?

Jack Lifton, Clint Adam Smyth and I just launched the TechnologyMetals.com site to manage the influx of critical materials' news (and experts) we are communicating with regularly. Jack's interview with Dr. David Dreisinger on Search Minerals Inc. (TSXV: SMY) last week was purely outstanding (in my opinion) as he describes David as "the leading authority on solvent extraction process". This is a hot topic that we touch on in our weekly update that we just started...[click here](#) to access a preview

And associated technologies relating to cleantech? We saw Exro Technologies Inc. (CSE: XRO | OTCQB: EXROF) stock move up 30% yesterday! Interviewing CEO Sue Ozdemir on how Exro makes "electric motors faster, stronger and greener" for

InvestorIntel on Wednesday: we will get this up live as fast as we can!

Uranium continues to maintain a much-deserved interest, let me point you in the right direction for a quick update – Matt Bohlsen’s piece from last week titled, The DoE’s plan to rebuild the uranium sector and ‘pull America’s nuclear industrial base back from the brink of collapse’... reinforces the sustainability themes we are touting on the Technology Metals Show. Arranging interviews as we speak with Mark Chalmers of Energy Fuels Inc. (NYSE: UUUU | TSX: EFR) and Jeff Klenda of Ur-Energy Inc. (NYSE: URG | TSX: URE) as they “stand to be the major beneficiaries, especially given they started the whole S232 petition back in January 2018” you should see those live on InvestorIntel next week.

And yes, we are following the biotech and life sciences market. If you subscribe to our AI driven market updates on InvestorChannel.com – you can catch the 20 companies, we are following in the race for vaccinations...click here

Speaking of AI technology, we would like to ensure that you are aware of the news that was put out by Predictmedix Inc. (CSE: PMED | OTCQB: PMEDF) yesterday titled – Predictmedix Files Patent for Mass Screening for Infectious Diseases Such As #COVID19



1 YR stock Chart for Predictmedix Inc. (CSE: PMED) – Source: TD Waterhouse

And speaking on the war against the COVID-19, StageZero Life Sciences Ltd. (TSX: SZLS) put out the following news on April 20th StageZero Life Sciences Initiates Testing for COVID-19 In the USA

Remember, click here to subscribe to the InvestorChannel for daily market updates on the Canadian, US and Hong Kong markets – and to follow InvestorIntel’s stock watchlist for Gold, Uranium, Rare Earths and of course, COVID-19..

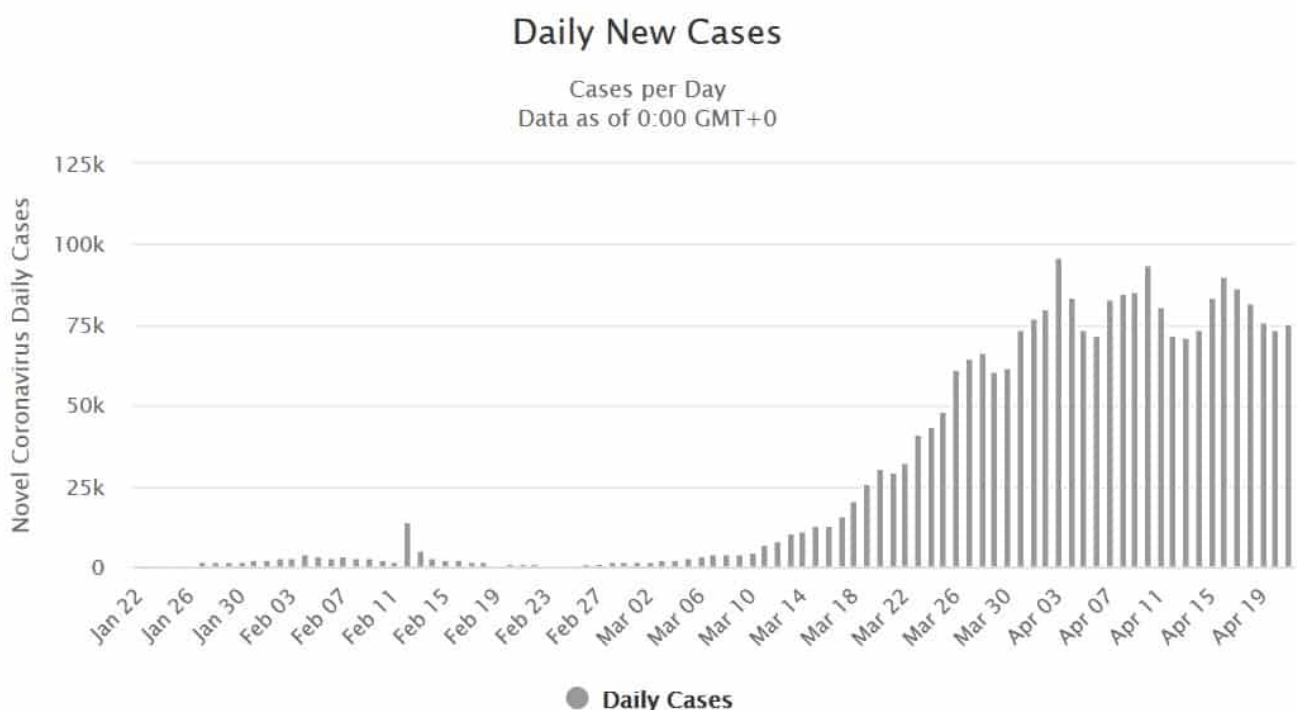
COVID-19 Update: Global coronavirus cases hit 2.5

million as some countries in Europe start to reopen

As of April 22, 2020, global coronavirus cases are **2,557,917 confirmed cases** with **177,688 deaths**. That puts the current death rate from 'known' cases at a staggering 6.9%. Globally the number of new cases appears to be stabilizing, with hopes a decline will soon follow.

Despite the meteoric rise in the number of global cases some countries appear to have contained the virus and are even reopening their businesses. Today we look at those countries as well as the latest developments in coronavirus treatments and vaccines.

The global number of new coronavirus cases has stabilized at ~75,000 per day



Source

A look at countries that have reopened their economies

China

China was the first country to suffer from COVID-19 during January-February 2020, and they were also the first to reopen their economy in March and April, 2020. The Chinese number of new coronavirus cases per day is now usually below 50. This is despite the fact that China has now reopened a large percentage of their economy. This is the good news for China. The bad news is that consumers have been slow to start spending again. Retail spending in March was still 18% lower than a year ago, and new car sales continue to struggle.

Given the scare to the economy and the weak global economy it would seem logical that Chinese spending will take some time to recover, and the March 18% fall is really not bad at all given the circumstances.

South Korea

South Korea was the second country to suffer from COVID-19 during February-March 2020. South Korea has also contained the virus now with new cases usually below 20 per day. South Korea has adopted a cautious reopening with a focus on social distancing, testing and contact tracing. So far it is working, but again consumers are slow to resume normal spending.

Iran

Iran was another of the early hit countries. Iran's new daily cases are down to ~1,300 per day. As of Monday April 20, Iran allowed local market places and shopping malls to reopen.

Germany

Germany's coronavirus daily new cases have significantly decreased and are now running at a bit over 1,000 per day. The German government announced that the lockdown will be extended until May 3, 2020; although restrictions have been loosened to allow smaller businesses and public places to re-open.

Businesses with a sales floor area of up to 800 square meters were reopened on Monday, April 20, 2020. This included car dealerships, cycle shops, bookshops, and final year school students to sit their exams.

Others opening up

Other countries beginning to reopen their economies include: Austria, Denmark, Norway, Switzerland, Poland, Albania, and the Czech Republic.

Lockdown exit plans – Some restriction are being eased

Lockdown exit plans

Lifting some restrictions this week

Czech Republic

Five-stage plan starts 20 April with open-air markets and workshops and ends on 8 June. Czechs may now also travel abroad providing they undergo two-week quarantine on return

Germany

Commercial spaces under 800 sq metres can reopen on 20 April as well as car dealerships, bike shops and book stores. Gyms, restaurants, bars and large stores remain closed. Masks are 'urgently' recommended

Norway

Kindergartens and some health specialists to reopen from 20 April. Partial reopening of high schools and universities, hair, massage and beauty salons from 27 April

Poland

Opening parks and forests. Easing limits on number of people in shops

Albania

Mining and oil industries reopen on 20 April plus some other businesses

Source

USA

President Trump has released guidelines for US states to reopen, however the decisions will be taken by each state Governors on a local basis. California Governor Newsom plans today to give an update on when California can reopen. Sixteen U.S. states have formed three coalitions to examine a staged re-opening of their economies. It is looking like reopenings may possibly begin sometime in May; however daily new coronavirus cases across the whole of the US are still high at about 26,000 per day.

Italy, UK, and Australia (and Canada)

All of these three G20 countries have not yet reopened but are seeing declining new daily case numbers, suggesting we may see some opening up in May. Italian Prime Minister Giuseppe Conte aims to roll out a detailed restart program beginning on May 4. Western and Atlantic Canada is another region that may reopen soon, although new cases in Canada as a whole are still on the rise at this time.

Recent COVID-19 treatment and vaccine news

Gilead Sciences Inc. (NASDAQ: GILD) – Remdesivir

The biggest recent news story was the successful Chicago Hospital study on Gilead Science's antiviral drug remdesivir. What was exciting was that out of the 125 people in the study (113 had severe disease) most have recovered and only 2 have died. Gilead Sciences have said it is still too early to draw conclusions; however the full trial results for the first 400 patients should be out soon (in April). This will be part of a larger global study including 2,400 participants from 152 different clinical trial sites all over the world.

Hydroxychloroquine

A recently announced study of hydroxychloroquine, with or without azithromycin, "found no evidence" that the drug reduced the risk of mechanical ventilation in veterans hospitalized with COVID-19. The FDA has already granted emergency use for hydroxychloroquine, noting it is already an established anti-malaria drug. I expect we will see more studies.

Regeneron Pharmaceuticals Inc. (NASDAQ: REGN)

Regeneron is working on an antibody treatment and vaccine. Regeneron uses genetic material identical to that of the virus in several dozen mice, provoking an immune response, and then

harvesting the antibodies, selected the most effective, and then making a antibody based treatment and/or vaccine. Human trials could begin in June. There is also potential for wider scale use under human trials or under FDA emergency use rules, should they be used.

Regeneron is also testing their anti-inflammatory drug Kevzara, after hearing of good results from Roche Holding Ltd.'s (SW: ROG | OTCQX: RHHBY) anti-inflammatory drug Actemra. In both cases the drugs are not to kill the virus, but rather to reduce the inflammatory response that affects the lungs ability to get oxygen.

Closing remarks

China, South Korea, Iran and a handful of European countries have contained the coronavirus and are reopening their economies. The new normal is quieter businesses, social distancing, wearing face masks and using hand sanitizers.

Rapid progress is being made towards COVID-19 drug development and trials, with some significant success last week in the Remdesivir Chicago hospital study. Official results for the larger study from Gilead on Remdesivir is expected this month. The Chicago hospital report helped stock markets to surge higher on hope of a cure, so any further good news this month should help.

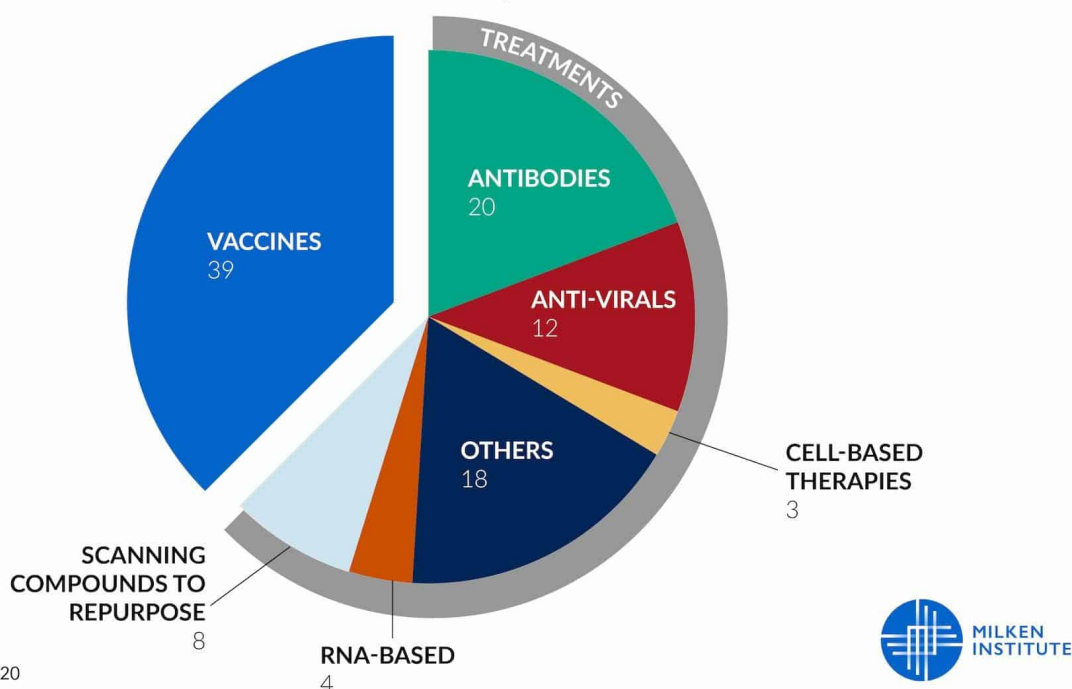
For investors the message is mixed. The good news is some countries are showing the world that reopening the economy is possible whilst still containing the virus. The bad news is that the recovery period for the real economy will likely take some time, perhaps a 'tick' shaped recovery, unlike the stockmarket's current 'V' or perhaps 'W' shaped recovery.

InvestorIntel's Weekly Update on the Public Companies in the Race to Treat and Prevent COVID-19

COVID-19 ("coronavirus") is causing global chaos. As of March 30, 2020, there are **722,196 confirmed cases and 33,976 deaths** worldwide, with new cases globally increasing at around 60,000 per day. InvestorIntel takes a look at the companies that are racing to develop effective treatments and vaccines, and hence be the likely winners from COVID-19 crisis.

The chart below shows some of the sub-categories of the various ways to treat or prevent coronavirus. In this article, I will briefly look at some of the key companies working on the treatment areas. In future articles, I will look at the vaccine companies as well as following who may be the eventual winning companies. I may even look at some companies that focus to produce immune-boosting vitamins and natural medicines that can be useful to prevent people from catching the coronavirus.

Potential COVID-19 Treatments and Vaccines in Research Pipeline



Source

Antibodies

By using patients that have recovered from coronavirus the aim is to use antibodies from their blood plasma to treat active coronavirus patients. Antibodies are the body's natural way to fight off pathogens such as viruses. Some key companies include:

- CSL Ltd. ("Commonwealth Serum Laboratories") ("CSL") (ASX: CSL | OTC: CSLLY) – CSL is Australia's largest listed company and a global biotech leader. CSL's core business is the development and large-scale manufacture of plasma-based therapies, recombinant proteins and influenza vaccines. CSL is currently working with WHO and others to source recovered COVID-19 patients "as possible donors of their antibodies."
- Roche Holding Ltd. (SW: ROG | OTCQX: RHHBY) – Swiss pharmaceutical giant Roche will begin coronavirus clinical studies in April 2020.

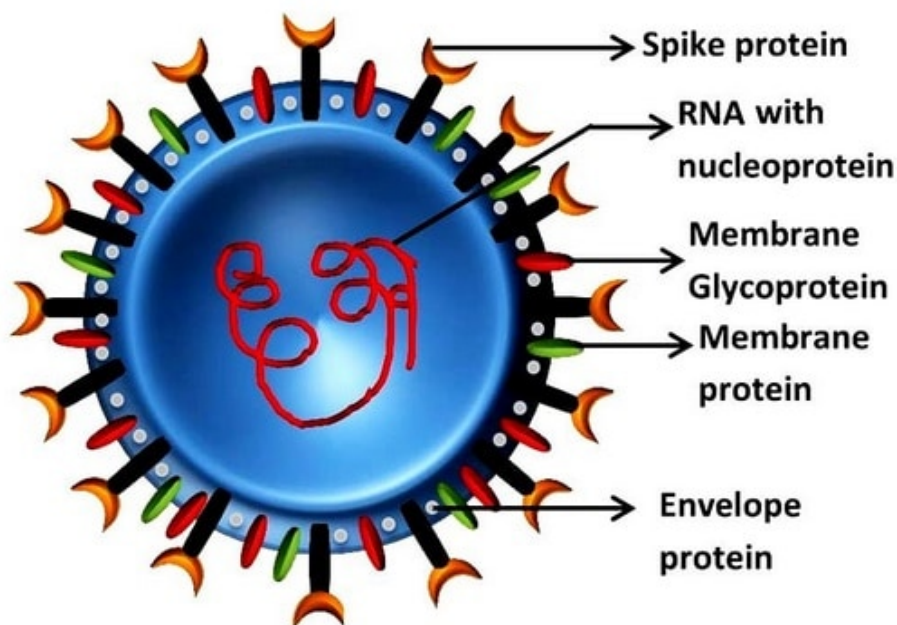
- Takeda Pharmaceutical Company Limited (NYSE: TAK | TSE:4502) – Takeda is a Japanese drug maker with a focus on drugs for cancer, GI tract, and CNS diseases. They are targeting treating coronavirus patients in September 2020 for pre-clinical trials.

Other global companies working on this approach include Regeneron Pharmaceuticals Inc. (NASDAQ: REGN), Sanofi Pasteur (NASDAQ: SNY | EURONEXT: SAN), Celltrion, Inc. (KS: 068270), CytoDyn Inc. (OTCQB: CYDY), Kamada Ltd. (NASDAQ: KMDA), AstraZeneca PLC (NYSE: AZN | OTC: AZNCF), and others.

Anti-Virals

Anti-virals generally work by blocking the virus's ability to replicate thereby inhibiting its spread within the body.

The makeup of a typical virus



For now the anti-viral medicine getting the most attention is the anti-malaria agent Chloroquine, especially after President Trump tweeted about the merits of Chloroquine ('hydroxychloroquine') and Azithromycin taken together for coronavirus. With SARS Chloroquine was effective as it disrupts the virus's ability to replicate. Some recent studies

in France & China suggest it is effective while others disagree. Chloroquine overdose can be a problem due to its high toxicity. Chloroquine has been around a long time and is therefore manufactured by many companies. Some include Sanofi Pasteur (NASDAQ: SNY | Euronext: SAN), Novartis AG (NYSE: NVS | SW:NOVN), Bayer AG (GR: BAYN | OTC: BAYRY), and Mylan N.V. (NASDAQ: MYL), as well as many others.

On March 22 President Trump tweeted:

“HYDROXYCHLOROQUINE & AZITHROMYCIN, taken together, have a real chance to be one of the biggest game changers in the history of medicine. The FDA has moved mountains – Thank You! Hopefully they will BOTH (H works better with A, International Journal of Antimicrobial Agents).”

Some key anti-viral companies include:

- Gilead Sciences Inc. (NASDAQ: GILD) – Gilead’s Phase 3 coronavirus clinical trial results on its anti-viral Remdesivir are expected in April 2020. Gilead also has other HIV medicines that may prove to be effective.
- BioCryst Pharmaceuticals Inc. (NASDAQ: BCRX) – BioCryst’s Galidesivir is an anti-viral used for yellow fever. It is currently undergoing trials to treat coronavirus.
- Fujifilm Toyama Chemical/Zhejiang Hisun Pharmaceutical Co., Ltd. (SHA: 600267) – Their Japanese licenced influenza drug Favilavir is being trialled in China. It has reportedly shown efficacy in treating the disease with minimal side effects in a clinical trial involving 70 patients.

Some others include AbbVie Inc. (NYSE: ABBV), Ascleptis Pharma Inc. (HK:1672 | OTC: ASCLF), Pharmstandard PJSC (RU: PHST), Roche, Cocystal Pharma Inc. (NASDAQ: COCP), and others.

Cell-based therapies and others

The cell based therapies include using placenta cells, mesenchymal stem cells, or bone marrow stem cells. Companies in this area include Mesoblast Limited (NASDAQ: MESO), Athersys Inc. (NASDAQ: ATHX), and AlloVir.

Anti-RNA virus drugs are used to help stop the coronavirus replicating. Some companies involved include Sirnaomics, Vir Biotechnology Inc. (NASDAQ: VIR), and AIM ImmunoTech Inc. (NYSE: AIM).

Most of the major drug companies such as Pfizer Inc. (NYSE: PFE), Merck & Co., Inc. (NYSE: MRK), Novartis and so on, are currently scanning their existing drugs to see if any can be repurposed for coronavirus.

Scientists globally are racing to find a cure for COVID-19 (coronavirus)



Reference

A comprehensive list and details on over one hundred companies

working on COVID-19 can be found here. It is published by the Milken Institute with linked references.

Closing remarks

The race is on to treat and prevent coronavirus. The simplest methods will probably prove to be the best, such as using recovered patients COVID-19 antibodies, or antiviral and RNA blocker medications. Longer term vaccines can also play a vital role.

Rest assured, hundreds, if not thousands of global companies are racing to find a coronavirus cure. Given the human race prevailed previously against all sorts of viral pandemics, I am sure we will soon prevail again.

As to which company will be the winner that is the million-dollar question. For now, I would be following those that can have real mass market treatments available within a few months, not years. The big established pharmaceutical companies will surely also play a role and investors can buy the sector using various funds such as iShares S&P 500 Global Healthcare ETF (IXJ).

InvestorIntel will continue to follow the sector and publish articles on those companies that are the front runners at solving the coronavirus pandemic.