Investor.Coffee (9.25.2023): As September concludes, markets worldwide display volatility, reflecting the complexities of geopolitics

written by InvestorNews | September 25, 2023

Canada in Focus

Canadian markets are showing signs of weakness as metal prices take a dip. Alongside this, U.S. stock index futures are experiencing a slip, with the market anticipating key economic data and awaiting remarks from Federal Reserve policymakers throughout the week.

European shares too are not performing optimally, with the STOXX 600 index seeing a pullback due to China-exposed shares. In the East, Japan's Nikkei has displayed resilience, rebounding robustly as investors see potential in previously beaten-down stocks after the index's tumultuous week. The metals market sees gold prices trickling down, given the U.S. dollar's surge, which is attributed to predictions of sustained higher interest rates. Meanwhile, oil prices are climbing, reflecting concerns about a tightening supply, especially after Moscow's surprising temporary fuel export ban.

A notable partnership emerges between Japan's Sumitomo Metal Mining Co., Ltd. and Canada's Nano One Materials Corp. (TSX:

NANO). The former is investing C$ 16.9 million in Nano One, a company specializing in sustainable battery material production. The strategic partnership aims at enhancing global battery supply chains and developing cost-effective, environmentally-friendly battery cathode materials for EVs.

U.S. Market Updates

The U.S. market trajectory is heading downward as September wraps up. The Dow Jones, the S&P 500, and the Nasdaq Composite are all showing negative trends.

Labor tensions are evident in the automotive sector, with Ford Motor Company (NYSE: F) citing "significant gaps" in their ongoing negotiations with the United Auto Workers (UAW) union. Meanwhile, the UAW intensifies strikes against General Motors Co. (NYSE: GM) and Stellantis.

Rupert Murdoch, the stalwart media tycoon, stepped down from Fox Corporation (NASDAQ: FOX), marking an end to his illustrious seven-decade career. The compensation details for both Rupert and his successor, Lachlan Murdoch, have been disclosed, showing a significant hike for the senior Murdoch.

Other notable U.S. business news includes The Goodyear Tire & Rubber Company's (NASDAQ: GT) rationalization plans, a lawsuit against Meta Platforms, Inc. (NASDAQ: META) by Metabyte over trademark rights, and Oracle Corporation's (NYSE: ORCL) substantial investment in Ampere Computing.

Global Glimpses – Europe, Asia, and India

The Chinese property giant, Evergrande, faces another setback as

it discloses its inability to issue new debt, sending its shares tumbling.

While Hollywood’s writers union and major studios reach a tentative agreement, potentially ending industry strikes, Russian crude oil supplies surge despite G7 sanctions, and Germany stalls its building insulation standards, providing a breather to its building sector.

Sweden’s SBB offloads a chunk of its education subsidiary, TotalEnergies preps to discuss its Namibian oil prospects, and India exhibits a mixed bag of financial news. India’s foreign exchange reserves witness a dip, but optimism surrounds its bond yield following JPMorgan’s decision. The tech industry breathes a sigh of relief as India decides to defer import license requirements that could have impacted giants like Apple and Samsung.

In summary, as September concludes, markets worldwide display volatility, reflecting the complexities of geopolitics, evolving economic partnerships, and sector-specific dynamics. Investors and market enthusiasts are advised to keep an eagle eye on these developments to make informed decisions.

Innovations for Tomorrow: The Must-Attend InvestorTalk Series of August 2023

written by Tracy Weslosky | September 25, 2023

As we catapult into a future shaped by quantum cybersecurity,

green hydrogen, and state-of-the-art EV battery technology, the next week's InvestorTalk events stand as your passport to the bleeding edge of innovation. Set your calendars; these sessions are brimming with insights and revelations.

Quantum eMotion Corp. (TSXV: QNC | OTCQB: QNCCF): On August 15, delve deep into the fabric of quantum mechanics with Francis Bellido. As cyber threats evolve, Quantum eMotion is ensuring our digital fortresses stand impregnable. Their patented Quantum Random Number Generator capitalizes on quantum unpredictability, heralding a new dawn in hardware security. Targets? Everything from Blockchain to Quantum Cryptography.
Click Here to Register for this InvestorTalk at 9 AM EST.

SunHydrogen, Inc. (OTC: HYSR): Imagine powering tomorrow with sunlight and water. On August 16, Tim Young introduces us to the SunHydrogen Panel technology. With an ambition to fuel the emerging $12 trillion hydrogen economy, SunHydrogen aims to drive the future – emission-free.
Click Here to Register for this InvestorTalk at 9 AM EST.

Nano One Materials Corp. (TSX: NANO): That same day, at 4 PM EST, Dan Blondal unveils the green magic behind efficient lithium-ion battery cathode materials. With giants like BASF and Rio Tinto as allies, Nano One's technology eyes the vast expanse of electric vehicles, energy storage, and consumer electronics
Click Here to Register for this InvestorTalk

The Grand InvestorTalk at The National Club: August 17 is an ensemble of visionaries:

- **Spencer Huh** from *NEO Battery Materials Ltd.* (TSXV: NBM | OTCQB: NBMFF): Unearthing the potentials of silicon in EV lithium-ion batteries.
- **Bundeep Singh Rangar** of *Finegia International Inc.* (CSE:

FNQ): Navigating the future web with digital assets, tokenization, and more.

- **Stephen Burega** from *Romios Gold Resources Inc.* (TSXV: RG | OTCQB: RMIOF): From precious metals in the "Golden Triangle" of BC to global mineral explorations – it's a golden journey.
- **Thomas Smeenk** of *Hemostemix Inc.* (TSXV: HEM | OTCQB: HMTXF): Introducing blood-based stem cell therapeutics that have the potential to revolutionize healthcare.

RSVP for this event that kicks off at 9:30 AM EST by sending an email to tracy@investornews.com

Diving Deeper:

NEO Battery Materials Ltd.: Based in Vancouver, they're redefining EV battery materials, particularly silicon anode materials, promising enhanced efficiency and capacity over traditional graphite anodes.

Romios Gold Resources Inc.: This Canadian mineral giant, with its vast claims spanning from BC's "Golden Triangle" to Nevada, merges tradition with innovation in gold, copper, and silver explorations.

Hemostemix: A pioneer in autologous stem cell therapy since 2003, this World Economic Forum Technology Pioneer Award winner is scaling blood-based stem cell therapeutics, which promise groundbreaking treatments.

Fineqia: At the crossroads of the digital revolution, Fineqia is capitalizing on tokenization, blockchain tech, NFTs, AI, and fintech. From managing debt securities in the UK to investing in next-gen Internet technologies, they're forging digital frontiers.

Prepare for a week of revelations and insights. Whether you're a seasoned investor, an innovation enthusiast, or someone curious about tomorrow, next week's InvestorTalks is a trove of enlightenment. Mark your schedule and be part of this journey into the future.

Understanding why the Nano One JDA with Umicore is significant in the battery materials world

written by InvestorNews | September 25, 2023

Unfortunately, a publicly traded company can't do much about the timing of news as they are required to disclose material information pretty much immediately. When you put out a press release on December 21st, when everyone is seemingly obsessed with holiday travel issues and winter storm warnings, it can potentially fly under the radar of investors. Pile on a market that was visited by the Grinch for all but one day in the last two weeks (ironically the best day in that period for the S&P 500 was Dec 21) and you can see how there is the potential for a very meaningful piece of news to appear to get lost in the shuffle.

I'm referring to recent news from Nano One Materials Corp. (TSX: NANO) that stated it had entered into a Joint Development Agreement (JDA) for production process technologies for cathode active materials (CAM) for lithium-ion batteries with Umicore.

This is a really big deal for Nano One, but before I explore why that's the case let's look at why I think the market appears to have either missed it or ignored it. Sure the stock rallied almost 8% the day the news came out, but as I noted above, it was a good day for the market overall and many stocks saw substantial gains that day. In the case of Nano One, the volume traded that day was not out of the ordinary, and the share price has subsequently sold off to below where it was trading when this news first came out. More telling (at least to me), is that there isn't a noticeably above average trading volume day since this news. Yes, overall market volume has been below average for the last few days, but if a company puts out material news, somebody will take notice, and it appears (based on trading volume) no one has.

At this point, you might be thinking I'm the one missing the point and perhaps the news isn't as big a deal as I'm making it out to be. I can live with that but I'll let you be the judge as I flesh out what this could mean for Nano One.

Let's start with who the JDA was signed with – Umicore. Belgium-based Umicore SA is a significant player in the battery materials world, with revenues of €2.1 billion (turnover of €13.8 billion) in the first half of 2022 and currently employs 11,350 people. It is a leading circular materials technology company with an extensive expertise in the fields of material science, chemistry, and metallurgy. Umicore is the largest producer of cathode material outside of Asia, and they are far and away the Western world's largest recycler of technology metals. They are a dominant player in LCO batteries and nickel rich cathode materials. Canadian readers may recall the July 13th announcement of plans to build a C$1.5 billion battery supply chain plant near Kingston, Ontario. Additionally, Umicore has a joint venture with Volkswagen AG to build precursor and cathode

material production capacities in Europe to supply Volkswagen AG's European battery cell production.

And what could all this mean for Nano One? If the JDA is successful in increasing throughput for high nickel NMC cathode active materials while reducing costs and environmental footprint, we could see Umicore making their cathode materials using Nano One's patented M2CAM® One-Pot process technology. Now you can see why it's important to understand who Umicore is and what they've got going on. This could be huge for Nano One, albeit both the Kingston facility and the Volkswagen joint venture aren't slated to be in production until 2025.

Nevertheless, Nano One is on a roll and continues to make material progress. When I last discussed Nano One in August, I commented on how years of hard work was starting to come together and that momentum was starting to snowball. At the time they had recently acquired 100% of the shares of Johnson Matthey Battery Materials Ltd. located in Candiac, Québec, signing a joint development agreement for lithium-ion battery materials with industry giant BASF, and announced a US$10 million equity investment by one of the world's largest mining companies, Rio Tinto. This latest deal with Umicore brings further credibility to Nano One and signals that this well funded (almost C$46 million in working capital), C$235 million market company appears to be headed in the right direction.

Skyrocketing LFP demand has

experts asking, “How fast can Nano One scale production?”

written by Tracy Weslosky | September 25, 2023

Lithium iron phosphate (“LFP”) batteries are rapidly gaining market share due to their improved energy density, longer cycle life, improved safety, generally lower costs, and no requirement for nickel and cobalt. It certainly makes sourcing the critical materials much easier as lithium and graphite become the only critical materials needed. No need to source cobalt from the Congo or nickel from Russia.

Furthermore, the LFP trend is now expanding out from China to other regions as Chinese patents expire. In October last year, Tesla announced it is switching all of its standard range Model 3 and Model Y electric cars globally to LFP batteries. Multiple OEMs have since followed Tesla’s lead. The problem is now that the Inflation Reduction Act will only reward U.S or U.S free trade countries if their batteries are made locally (not in China), but there are very few western LFP battery facilities.

Nano One Materials now owns the only LFP battery facility in North America

In news announced on October 31, Nano One Materials Corp. (TSX: NANO) has now completed the acquisition of Johnson Matthey Battery Materials Ltd., who just happens to own the only LFP battery factory (the “Candiac facility”) in North America. Many in the market failed to appreciate the significance. And let me lay out – there is a massive demand for western made LFP batteries, and there is an extremely small current western supply to access.

Highlights of the announcement are:

“The Acquisition helps expedite Nano One’s business strategy for LFP and other battery materials and includes:

- A talented and dedicated workforce of 46 professionals with almost 400 years of scale-up, commercialization, and cathode manufacturing know-how on LFP.
- **The only existing North American lithium iron phosphate (“LFP”) production facility.**
- An 80,000 square foot, 2,400 tpa capacity LFP production facility on 9.5 acres, strategically located near Montréal.
- Certification systems supplying tier 1 cell manufacturers for the automotive sector.”

Note: Bold emphasis by the author.

Another key factor many in the market fail to appreciate is the difficulty in obtaining experienced battery manufacturing personnel. In the case of the above-mentioned deal, Nano One was able to secure a very key person, namely Denis Geoffroy. Denis was an early contributor to Phostech Lithium, which led the first commercial manufacturing of LFP cathode active materials globally. Nano One CEO Dan Blondal summed it up well stating:

“Today marks the beginning of an exciting new chapter in the Nano One story. I am pleased to report that the entire team in Candiac has transitioned to Nano One and this positions us with the most experienced LFP workforce in North America.”

Denis Geoffrey is the Chief Commercialization Officer of Nano One

Source: Nano One Materials website (video link)

In terms of the next steps Nano One states:

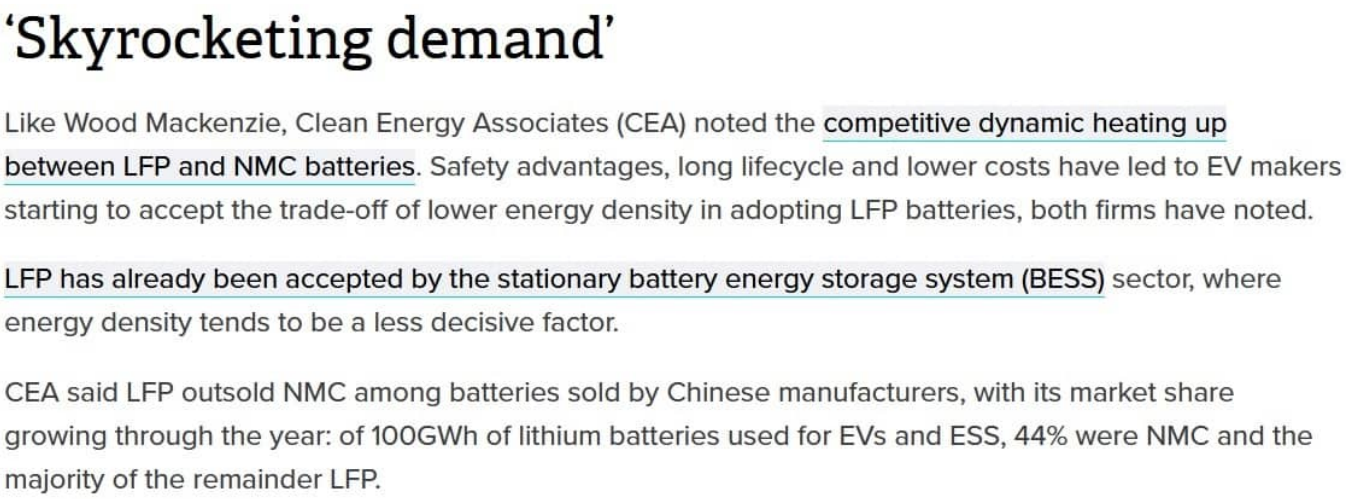
"The Company will begin with trials in the Candiac facility to validate the production of LFP using the Company's patented One-Pot process. Results from these trials will drive business, commercial and plant conversion decisions in 2023."

One would think Tesla and other North American based electric car and battery OEMs would be taking notice of how this all develops, and off-take deals could potentially soon emerge.

The rise and rise of LFP batteries

LFP batteries outsold NMC batteries last year in China, rapidly gaining market share (see below).

LFP battery demand skyrocketing – LFP outsold NMC in China as of March 2022



‘Skyrocketing demand’

Like Wood Mackenzie, Clean Energy Associates (CEA) noted the competitive dynamic heating up between LFP and NMC batteries. Safety advantages, long lifecycle and lower costs have led to EV makers starting to accept the trade-off of lower energy density in adopting LFP batteries, both firms have noted.

LFP has already been accepted by the stationary battery energy storage system (BESS) sector, where energy density tends to be a less decisive factor.

CEA said LFP outsold NMC among batteries sold by Chinese manufacturers, with its market share growing through the year: of 100GWh of lithium batteries used for EVs and ESS, 44% were NMC and the majority of the remainder LFP.

Source: Energy Storage News

Looking ahead this decade it looks likely that LFP will continue to gain market share from NMC and become the preferred battery cathode type. Energy Storage News quotes research from Wood Mackenzie stating: “Lithium iron phosphate (LFP) will be the dominant battery chemistry over nickel manganese cobalt (NMC) by 2028.”

Time will tell, but certainly, the current trend is towards LFP gaining market share globally. In North America the LFP demand will massively outweigh the supply, putting Nano One Materials in the box seat this decade, as a LFP battery manufacturer. The question really will be – **How fast can Nano One scale production?**

Nano One trades on a market cap of C$266 million.

Dan Blondal of Nano One Materials on its patented lithium-ion battery cathode technology

written by InvestorNews | September 25, 2023
In this InvestorIntel interview with host Byron W. King, Nano One Materials Corp.'s (TSX: NANO | OTC: NNOMF | FSE: LBMB) CEO, Director & Founder Dan Blondal provides an update on Nano One's patented One-Pot process and metal-direct-to-cathode-active-material (M2CAM) technology for production of lithium-ion battery cathode materials.

In the interview, which can also be viewed in full on the InvestorIntel YouTube channel (click here), Dan Blondal talks about the versatility of Nano One's One-Pot process which is suited for multiple battery chemistries like lithium iron phosphate (LFP), nickel-rich (NMC), and manganese-rich (LNMO) cathode materials. Dan explains how Nano One's M2CAM technology eliminates 100% of the sulphate waste in traditional standard lithium-ion battery cathode manufacturing to reduce cost, complexity, and carbon footprint of the process.

Don't miss other InvestorIntel interviews. Subscribe to the InvestorIntel YouTube channel by clicking here.

About Nano One Materials Corp.

Nano One Materials Corp. (Nano One) is a clean technology company with a patented, scalable and low carbon intensity

industrial process for the low-cost production of high-performance lithium-ion battery cathode materials. The technology is applicable to electric vehicle, energy storage, consumer electronic and next generation batteries in the global push for a zero-emission future. Nano One's One-Pot process, its coated nanocrystal materials and its Metal to Cathode Active Material (M2CAM) technologies address fundamental performance needs and supply chain constraints while reducing costs and carbon footprint. Nano One has received funding from various government programs and the current "Scaling of Advanced Battery Materials Project" is supported by Sustainable Development Technology Canada (SDTC) and the Innovative Clean Energy (ICE) Fund of the Province of British Columbia.

To learn more about Nano One Materials Corp., click here

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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.

What's this about Johnson-Matthey exiting the EV battery cathode business?

written by Jack Lifton | September 25, 2023

The legacy carmakers and their supply base both face bankruptcy if they make the wrong decisions on entering the "transition to EVs" markets. This is because the OEM automotive industry is, along with semiconductor manufacturing, one of the most capital-intensive industries in the world. Just like with a 200,000 ton DWT ship, inertia being the problem on the one hand and prior

deployment of massive amounts of capital being the issue on the other, the OEM automotive industry cannot change course in a short time, and so must be careful to choose the right path (allocation of capital) before starting the voyage.

The battery materials' *processing* markets were surprised yesterday by an unexpected announcement from the UK's most prominent technology metals' processor, Johnson-Matthey Ltd. (JM), that it was withdrawing from the battery materials' processing market due to its estimation that the return on capital from manufacturing lithium-ion battery cathodes would be too low to justify the allocation of capital required to do so. JM's stated reason for this decision was that the battery materials' business is becoming "commoditized," so that JM's hoped for competitive advantage based on its specialized cathode manufacturing technology would either not materialize or not be good enough to be competitive.

But, even if so, It is the timing of this announcement that seems puzzling.

Both CATL, China's largest integrated battery manufacturer and Umicore, Europe's largest battery materials *processor* have poor returns on capital in their respective battery business sectors, and this has been going on since both entered the battery business, so JM cannot have been surprised by this factor, and, in fact, should have taken it into account on day one of its foray into the battery materials' business.

So, what's it all about?

Large companies with either diversified products or vertical integration can distribute costs. Legacy OEM automotive EV makers, for example, like Germany's Volkswagen, which had a 5 billion Euro profit last year, can afford to lose some money introducing its EVs to the market at a loss per vehicle, while

it tests both market acceptance and the lowering of manufacturing costs due to scaling up production.

Let's set aside my continuing accounting of battery raw materials' resources as woefully insufficient to support a transition to EVs, and concentrate on the OEM automotive industry's costs of bringing a new vehicle with any type of power train to market.

It is always multi-faceted crap shoot, and the history of government intervention in the car market is not one to inspire confidence.

Designing a new car and preparing to produce it costs billions of dollars and takes 3 to 6 years.

Government intervention in this market is always a compendium of what you can't do, not what you can. The U.S. and EU government's favorite regulatory intervention in the OEM automotive industry is the required "average miles-per-gallon" range for an OEM's output. This "standard" was first introduced to reduce the emissions of hazardous gases and then added the reduction of the emission of particulates to its mandate. The current EV craze was actually the result of California's 1990's experimental legislation requiring the slow phase in of zero-emission vehicles. General Motors brought out a battery electric vehicle, the EV in the late 1990s, and Toyota introduced its "hybrid" Prius into the US (mainly California) market in 1997 to meet that mandate. The Prius, a hybrid, using, at first, a nickel-metal-hydride (the metal being a mix of rare earths) battery prospered. The EV with its lead-acid batteries and short range, 90 miles before needing a recharge, did not (It helped that GM lobbyists got California to suspend enforcement of the zero emissions mandate). GM had only leased its EVs; they were recalled and scrapped.

BEVs as a type went into hibernation until 2005 when Elon Musk decided that lithium-ion batteries were ready for prime time. Global Cooling became Global Warming and then Climate Change, and Musk's struggling, capital devouring, OEM automotive venture, Tesla, kickstarted a revival of a serious EV industry, something last seen by the great grandfathers of Detroit's, Wolfsburg's, Paris', and Tokyo's car industry leaders when they decided that Thomas Edison's Nickel-iron batteries were not practical for even their then short range motor cars. They knew that Rockefeller's gasoline and kerosene distribution system in "filling stations" was far more practical than Edison's expensive and hard to maintain DC generating stations except for trolley cars.

So, what's this got to do with JM's decision to pull out of the battery cathode business?

The answer is that JM has (correctly) concluded that the market, though large, is limited, and that very large profitable multi-product and/or vertically integrated or (whisper) state-supported companies are already driving prices down by competition to get market share.

JM has concluded, again correctly, that most of the cars and trucks manufactured for the next generation will use internal combustion engines and that its core automotive exhaust emission catalytic converter business based on its dominance in the processing and use of platinum group metals is where it has the best competitive advantage and sunk costs.

The reputed costs to JM associated with building a Poland sited cathode plant were twice the industry average.

JM was once also in the rare earth processing business, and it exited that in the 1980s when the first Molycorp was losing its dominance to Chinese low-cost competitors. That was a wise

decision then, and getting out of the lithium-ion battery cathode business before getting into massive non-recoverable debt is also a wise decision.

Finally, I would like to repeat my prediction that since the OEM automotive assemblers do not understand or want to understand that the manufacturing of EVs using lithium-ion batteries is limited by the availability of lithium, there will be a cull. The survivors will be those OEMs that can balance the production of their allocation of (raw materials' supply limited) EVs with ICE production profitably. BMW is my choice for the most likely survivor, because it has already announced that it will continue to produce a mix of powertrain choices in its vehicles. The rest, so far, are either going "all-electric" or eliminating ICE production and development. They chose poorly.

Happy Earth Day – Look to these Stock to Support Mother Earth and Boost Your Portfolio Performance

written by InvestorNews | September 25, 2023

Investors are taking a deeper dive into corporations, looking beyond financial metrics and into a company's Environmental, Social, and Governance (ESG) standards as a measure of its commitment to all stakeholders, including a healthier planet.

Last year, Laurence Fink, the Founder and CEO of BlackRock, the

world's largest asset manager, sent a letter to the CEOs of its invested companies and a second letter to its clients, addressing a focused mandate on sustainable investing. BlackRock sees climate risk as investment risk and plans to act ahead of the serious impacts of climate change by doubling its number of ESG funds.

Below are four companies where ESG has become a critical part of their business or a core belief in building a more sustainable business environment.

1. Cielo Waste Solutions Corp. (CSE: CMC | OTCQB: CWSFF | FSE: C36)

Cielo is literally turning garbage into gas; it doesn't get much greener than that!

Cielo, a waste to renewable fuel company, has a patented technology that converts landfill garbage into renewable high-grade diesel used in transport trucks and kerosene used for aviation jet and marine fuel.

After 16 years and C$75 million in research and development, and now a fully functional plant, Cielo is currently riding the "green wave" of investor interest in environmental tech, and the stock price has responded accordingly, up over 1,000% year-to-date.

Cielo is currently rolling out 10 facilities in North America over the next couple of years but with revenues expected from its first plant this year.

Read the latest story about Cielo here.

2. mCloud Technologies Corp. (TSXV: MCLD | OTCQB: MCLDF)

mCloud helps businesses reduce energy waste, maximize energy

production and get the most out of critical energy infrastructure. It focuses on using Artificial Intelligence (AI) to curb energy waste in buildings, maximize the energy production of wind turbines and extend the lifespan of critical energy infrastructure in a variety of different industries.

mCloud recently rolled out a new service that detects the leakage of gases during oil and gas production that will drive major carbon emission reductions for its customers in Alberta and the Middle East.

And yesterday, mCloud announced a partnership with three North American energy utility providers to offer its energy-saving solutions for HVAC and improved indoor air quality (IAQ) monitoring solutions that could target over one million commercial buildings in the U.S. and Canada.

Read about yesterday's news release here.

3. Nano One Materials Corp. (TSXV: NNO)

Nano One Materials is a technology company with a patented and scalable industrial process for the production of low-cost, high-performance cathode materials used in lithium-ion batteries.

The cathode determines the battery's capacity and voltage, and can comprise 20% or more of the costs of a lithium-ion battery.

Nano One's proprietary "One Pot" furnace process creates a coated single crystal powder that protects the cathode from side reactions while allowing the transfer of lithium ions between electrolyte and cathode.

And, importantly, the process addresses ESG concerns around energy, waste, and carbon footprint in the lithium-ion battery supply chain. It is an environmentally friendly process using

limited water, and as it eliminates intermediate steps, it eliminates expensive and energy-intensive metal conversions and does not have a hazardous waste stream.

See the latest video about Nano One Materials here.

4. Neo Lithium Corp. (TSXV: NLC | OTCQX: NTTHF)

Neo Lithium is advancing its 100% owned Tres Quebradas (3Q) project, a high-grade lithium brine lake and salar complex in Argentina. The 3Q Project is located in Latin America's "Lithium Triangle" and covers 350 KM2 (~86,500 acres) in the largest lithium-producing area in Argentina.

Last week, Neo Lithium announced that it engaged Golder Associates and the Argentinean National University of San Martin, to help with the ESG program as part of its Feasibility Study for 3Q project.

Waldo Perez, CEO of Neo Lithium said, "We take very seriously our compromise with all of our stakeholders and future generations, which in large part includes all aspects of ESG."

Neo Lithium wants to be at the low end of the CO_2 emission footprint when compared with other lithium brine projects.

Read the latest story about Neo Lithium here.

Happy Earth Day, Do Something Nice for Mother Earth.

The million mile battery is ahead for electric vehicles – and investors

written by InvestorNews | September 25, 2023

Nano One positioned for great things as the EV boom approaches

Superior battery technology continues to move towards significant breakthroughs such as the 'million mile battery' and 'low cost/fast charging' lithium ion batteries. These new advances will act as a huge boost for electric vehicle (EV) sales and allow the next generation of EVs to become super competitive with conventional cars. The **million mile battery** suddenly makes EVs the preferred choice for fleet operators (taxis, hire cars, deliveries, trucking etc) and the cheaper/fast charging batteries mean that by 2022 we should start to see EVs reach price parity with conventional cars. This will lead to a tsunami of EV sales.

All of this is only possible because of scientific breakthroughs by leading companies such as Nano One Materials Corp. (TSXV: NNO). Car and battery manufacturers are jumping onboard so that they can remain competitive in a rapidly changing auto world. Volkswagen's partnership with Nano One is just one of many examples.

Understanding the massive changes happening in the auto industry helps explain why Nano One's stock is up 145% over the past year as investors start to see their potential of the predicted US$23 billion cathode market opportunity. Specifically, Nano One is targeting the licensing opportunity to improve cathodes

estimated at $1 billion in annual revenues by 2025.

Nano One's mission is to establish its patented technology as a leading platform for the global production of **a new generation of battery materials**. Nano One has developed patented technology for the low-cost production of high-performance lithium ion battery cathode materials.

Nano One is targeting a potential $1b licensing opportunity in the $23b cathode market by 2025

Source

Investors might think that it is too late to buy into Nano One looking at recent stock price gains, but actually on the current market cap of C$239m if Nano One can deliver the potential revenues below as per their targets the stock will have appeared cheap. This is because they are targeting about $70m a year in revenues by 2025 and profit margins are expected to be extremely high.

Nano One potential revenues by 2025

Source

Nano One's patented cathode used for the 'million mile battery'

Nano One announced in June this year the development of a coated, single crystal cathode material for lithium ion batteries that is providing **up to 4 times improvement in longevity**. The technology is applicable to all of Nano One's cathode materials but is especially relevant to lithium nickel manganese cobalt oxide (NMC811). According to Nano One, "Increased durability is critical in enabling extended range, faster charging and even million mile batteries for electric

vehicles."

This breakthrough makes the 'million mile battery' within reach. Such a battery would mean EVs can last at least 4x longer than a conventional car. The implications are enormous. Fleet operators will be lining up to buy EVs with million mile batteries.

Nano One's other key projects (LFP cathodes, and solid state battery cathodes)

Nano One has also made great progress in reducing the cost and improving the performance of Lithium Iron Phosphate (LFP) cathodes. Nano One has developed patented 'one-pot cathode materials and production processes' that reduces both the time and cost of LFP production. Working with partners such as Pulead who specialize in LFP cathode production opens up the door for licensing opportunities.

Nano One is also working on a breakthrough for the 'holy grail' of batteries – a solid state battery. Nano One's patented cathode tests positively in solid state batteries with auto companies. Nano One says that their "cobalt free cathode reduces supply chain risk, increases power and enables fast charging," and their "coated nanocrystal cathodes (single crystal) boost durability, capacity and charge rates."

Nano One is partnered for success

Nano One is very well partnered into the EV/battery supply chain via partnerships with industry giants Volkswagen, Pulead, Saint-Gobain and other undisclosed global automotive interests. Added to this they have had the support of the Canadian government.

Closing remarks

With so many breakthroughs in one year it is little wonder that Nano One's stock price is up 145%. Great management, great

technology, and great partners are always a winning formula.

Nano One currently has a market cap of C$234m and looks poised for great things as the real EV boom is just about to begin.

Further learning

- Dan Blondal on Nano One's breakthrough in lithium-ion cathode materials and the 'million mile battery' (video)

Dan Blondal on Nano One's breakthrough in lithium-ion cathode materials and the 'million mile battery'

written by InvestorNews | September 25, 2023

"The idea of a single crystal cathode has been around for a while but the conventional methods for making them are very expensive. You want to spend as little time in the furnace as possible and we have developed a way to do that. Our crystals form very readily in the furnace and they self coat in the furnace so you don't have to have a secondary coating process. We have simplified the process. It is less complex and because the crystals form quickly we get an inexpensive way of making them that doesn't have the downside of spending too long in the furnace." States Dan Blondal, CEO, Director & Founder of Nano One Materials Corp. (TSXV: NNO), in an interview with InvestorIntel's Tracy Weslosky.

Dan went on to say that even with single crystal there is degradation but if you coat that single crystal the cathode material lasts four times longer. Dan further added, “by making the material more durable you can get many more charges out of it. The electric battery that goes into a car is somewhat restricted by the durability of the materials. If the material is not very durable then you have to make the battery a bit bigger. A more durable battery allows you to either drive a million miles which is important for taxi drivers, buses and utilities, or charge is much faster because as the battery is more durable it can take more aggressive charge or drive a little bit further everyday.”

To access the complete interview, click here

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Well partnered (and well-funded) with key battery suppliers, Nano One charges forward on ‘Mission Possible’…

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Nano One secures an additional $11 million

in cash to provide a multi-year funding runway for their work on lithium-ion battery cathodes

For companies that are not yet producing revenues, the threat of running out of funding is a significant business risk. As the COVID-19 disruption deepens and some companies run low on cash, Nano One Materials has secured an additional $11 million in funding which will provide them with “a multi-year runway extending over three years.” This essentially removes the short-term funding risk making the stock a safer buy for investors.

Nano One Materials Corp. (TSXV: NNO) is working on making lithium-ion batteries better. Nano One has developed patented and scaleable industrial processes for producing low cost, high performance, battery materials typically used in the battery cathode. The processing technology enables lower-cost feedstocks, simplifies production, and advances performance for a wide range of cathode materials.

Nano One is working to make lithium-ion battery cathodes cheaper and better

Source

Nano One’s recent funding success

- $11m raised from private and institutional groups
- $5.25m grant from Sustainable Development Technology Canada (SDTC)

In connection with the closing of the $11m financing, Nano One issued 9,565,000 units at a price of $1.15 per unit with each unit comprising of one common share in the capital of the

Company (the “Shares”) and one-half of one common share purchase warrant (the “Warrants”). Each whole Warrant is exercisable into one share at an exercise price of $1.60 per until February 21, 2023.

The proceeds from the financing will be used for corporate development, facilities expansion, technology advancement and general working capital.

Nano One CEO Mr. Dan Blondal stated:

“We are thrilled with the capital market response to this latest placement. The proceeds from this financing will also be leveraged by an additional five million dollars in non-dilutive and non-repayable contributions, that was awarded to Nano One by Sustainable Development Technology Canada in May of 2019. ***The sum of sixteen million dollars*** *enables us to accelerate business plans and co-development activities including those already underway with Volkswagen, Pulead, Saint-Gobain and other undisclosed global automotive interests.”*

Note: Nano One also receives financial support from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP).

Nano One – Why invest?

Nano One’s development partners

Nano One is very well partnered into key battery suppliers and some car manufacturers, including several big names – Pulead, Saint-Gobain and Volkswagen. Nano One is working with Pulead to develop better LFP batteries, with Saint-Gobain to improve thermal processing and to develop enhanced high temprature cathode processing, and with Volkswagen to develop advanced

materials for next generation batteries.

Apart from the partnerships discussed above and other undisclosed opportunities, Nano One has 16 patents with 30+ patents pending.

Nano One's business model

Nano One's goal is to achieve up to $1 billion in licensing fees revenue for their patented cathode technologies, by tapping into the rapidly growing cathode market that is forecast to be worth $23 billion by 2025.

Nano One is tapping into the battery cathode market which is forecast to be worth $23 billion in revenues by 2025

Source

Closing remarks

Nano One is ticking all the right boxes.

- Great patented technology – Check.
- Industry leading partners (Pulead, Saint-Gobain and Volkswagen) – Check
- Funding secured ($16 million in total) – Check
- Government backing – Check

With a potential up to $1 billion licensing fees opportunity and a market cap of just C$80 million, it is not too late for investors to get on board. If Nano One succeeds it will have been a great time for investors to have bought in now after the recent dip. Execution risk remains, but the rewards look large if Nano One can pull it off.