

# **John Passalacqua on First Phosphate's Strategic Collaboration with Sun Chemical**

written by InvestorNews | December 6, 2023

In an Investor.Coffee interview series hosted by Jack Lifton, Co-Chairman of the Critical Minerals Institute (CMI), and guest John Passalacqua, CEO and Director of First Phosphate Corp.'s (CSE: PHOS | FSE: KD0), Jack commends John for First Phosphate's exceptional operation and strategic alliance recently announced with Sun Chemical Corporation.

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# **Dan Blondal on how Nano One's Partnership with Sumitomo Paves the Way for Sustainable Cathode Materials for Electric Vehicles**

written by InvestorNews | December 6, 2023

In a recent InvestorNews interview, host Brandon Colwell spoke with Dan Blondal, Founder, CEO, and Director of Nano One Materials Corp. (TSX: NANO), about Nano One's collaboration agreement and \$16.9 million strategic investment from Sumitomo

Metal Mining. Dan emphasized the importance of this partnership, highlighting Sumitomo's position as one of the world's leading vertically integrated miner, refiner and producer of cathode active materials.

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## **The Nano One manufacturing hub represents a game-changing opportunity to secure sustainable and clean battery supply chains in NA**

written by InvestorNews | December 6, 2023

One of the largest gaps in the North American EV metals supply chain is the need for 'western supply' of lithium iron phosphate ("LFP") cathodes used in most standard range electric cars, smaller electric cars, commercial vehicles, and stationary energy storage. These demand areas are set to surge this decade, yet where is the non-China supply of LFP going to come from?

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## **First Phosphate Unlocking**

# High-Purity Phosphate for the Rapidly Expanding EV LFP Battery Industry

written by InvestorNews | December 6, 2023

## Lithium iron phosphate (“LFP”) batteries are rapidly gaining market share

A major trend in the world of batteries and electric vehicles is the move towards lithium-iron phosphate (“LFP”) batteries. Not only do they cost less than rival nickel manganese cobalt (“NMC”) batteries, but they last approximately 2-times longer and are much safer (almost zero risk of fire).

The one drawback is their energy density, meaning an electric car’s range with LFP is less than the comparable NMC batteries. However, advancements in LFP technology now mean a base model (rear-wheel drive) Tesla Model 3 with LFP batteries has an EPA range estimate of [272 miles or 438 kilometers](#). That range is more than enough range for most people.

This explains why LFP battery sales are surging globally and now account for close to [30% market share](#). Most auto OEMs in China offer LFP battery EVs and globally [Tesla Inc.](#) (NASDAQ: TSLA), [Ford Motor Company](#) (NYSE: F), [Volkswagen AG](#) (Xetra: VOW3 | OTCPK: VWAGY), [Rivian Automotive, Inc.](#) (NASDAQ: RIVN), [Mercedes-Benz Group AG](#) (Xetra: MBG | OTCPK: MBGAF), [Hyundai Motor Co. Ltd.](#) (KRX: A0053850 | OTC: HYMTF), and others are also recently embracing the technology.

## FIGURE 1: Tesla Model 3 RWD comes with an LFP battery

TESLA

US



### Model 3

Est. Delivery: May 2023

[Enter Delivery ZIP Code](#)

Purchase Price

Potential Savings\*

272 mi

Range (EPA est.)

140 mph

Top Speed

5.8 sec

0-60 mph

Rear-Wheel Drive

Source: [Tesla website](#)

The [IEA](#) Global EV Outlook 2023 states:

*“Lithium iron phosphate (LFP) cathode chemistries have reached their highest share in the past decade. This trend is driven mainly by the preferences of Chinese OEMs. Around 95% of the LFP batteries for electric LDVs went into vehicles produced in China, and BYD alone represents 50% of demand. Tesla accounted for 15%, and the share of LFP batteries used by Tesla increased from 20% in 2021 to 30% in 2022.....LFP batteries contrast with other chemistries in their use of iron and phosphorus rather than the nickel, manganese and cobalt found in NCA and NMC batteries. The downside of LFP is that the energy density tends to be lower than that of NMC. LFP batteries also contain phosphorus, which is used in food production. If all batteries today were LFP, they would account for nearly 1% of current agricultural phosphorus use by mass, suggesting that conflicting demands for phosphorus may arise in the future as battery demand increases.”*

In the next part of the article, we shift our focus to a company poised to supply the phosphate (“P”) in LFP batteries.

# First Phosphate Corp.

[First Phosphate Corp.](#) (CSE: PHOS | FSE: KD0) is the only publicly-listed mineral development company that is fully dedicated to extracting and purifying phosphate for the production of cathode active material for the LFP battery industry.

The Company plans to vertically integrate from the mine source directly into the supply chains of major North American LFP battery producers that require battery-grade LFP cathode active material.

First Phosphate has more than 1,500 square kilometers (370,000 acres) of royalty-free land claims in the Saguenay-Lac-St-Jean Region of Quebec, Canada. The claims contain rare 'anorthosite igneous phosphate' rock that generally yields high-purity phosphate material devoid of high concentrations of harmful elements.

First Phosphate states:

*"95% of the World's Phosphate is found in heavy metal laden Sedimentary Rock.*

*Only 4% of the World's Phosphate is found in Clean Igneous Carbonatite Rock.*

*Only 1% of the World's Phosphate is found in Even Cleaner Igneous Anorthosite, found mostly in Quebec, Canada."*

This means that First Phosphate has a rare type of phosphate and hence a first mover advantage to become a western supplier of pure phosphate for the LFP cathode manufacturers.

## Lac à l'Original, Mirepoix, Vanel Trilogy flagship project

First Phosphate's flagship project (Lac à l'Original, Mirepoix, Vanel Trilogy) has an Indicated pit-constrained Mineral Resource of [15.8 million tonnes \(Mt\) at grades of 5.18% P<sub>2</sub>O<sub>5</sub> \(phosphorus pentoxide\), 4.23% TiO<sub>2</sub> \(titanium dioxide\), and 23.90% Fe<sub>2</sub>O<sub>3</sub> \(iron oxide\)](#) and an Inferred pit-constrained Mineral Resource of 33.2 Mt at grades of 5.06% P<sub>2</sub>O<sub>5</sub>, 4.16% TiO<sub>2</sub> and 22.55% Fe<sub>2</sub>O<sub>3</sub>.

There is also resource upside potential at the Project and with more than 1500 km<sup>2</sup> of additional phosphate-bearing land claims.

Metallurgical test work indicates an anticipated apatite grade of at least 38% P<sub>2</sub>O<sub>5</sub> at [over 90% recovery](#). The Lac à l'Original Deposit contains very low levels of potentially hazardous components, such as arsenic, heavy metals, and radioactive elements.

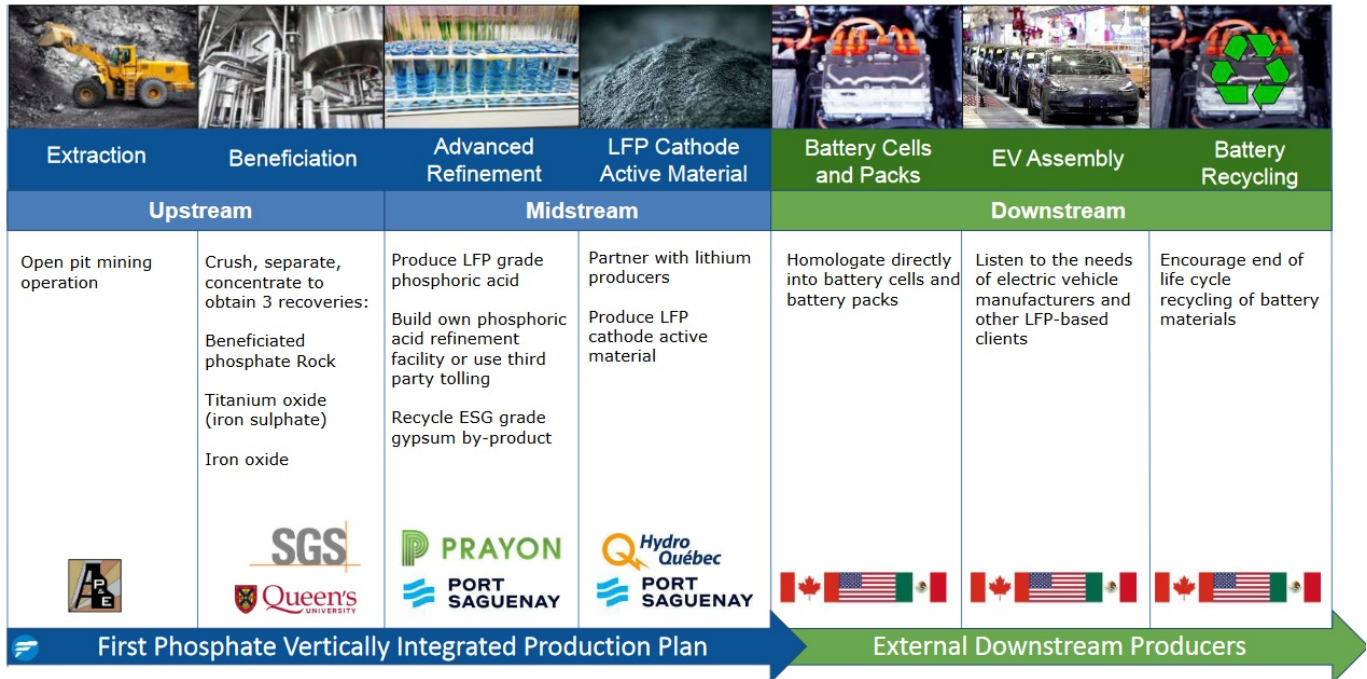
The Project site is accessible and usable in all four seasons, with heavy-haul road access, and is 140 km driving distance from the deep water, Port of Saguenay. There is access to clean Quebec hydroelectricity.

First Phosphate plans to develop midstream phosphate refining (purification) and LFP cathode active material production at the Port of Saguenay in Quebec.

The Company is currently working on its Preliminary Economic Assessment ("PEA").

**FIGURE 2: First Phosphate Corp.'s vertically integrated production plan to produce LFP cathode active material**

## First Phosphate in the ESG-Driven LFP Battery Ecosystem



Source: [First Phosphate Corp. company presentation](#)

## FIGURE 3: Reasons to buy First Phosphate Corp.

### Reasons to Buy First Phosphate

#### 1. Geographic Advantage

Flagship property with exploration upside  
( >1500 km<sup>2</sup> of royalty-free claims)



- Quebec, Canada is a friendly mining jurisdiction and electric vehicle hub for North America
- Strong government support for industry
- Meets Inflation Reduction Act Requirements

#### 2. The Right Type of Phosphate

World's cleanest source of phosphate rock from igneous anorthosite



- Devoid of harmful elements, low sulphur
- Produces large amounts of LFP battery grade purified phosphoric acid
- Environmentally clean, circular advanced mining and refinement methods. Solventless phosphate extraction

#### 3. Driven by EV Battery Market

Phosphate with characteristics to go from mine to LFP cathode active material



- Process using clean Quebec Hydro
- Traceable, ethical, ESG, secure supply source
- Ability to supply across North America from Saguenay-Lac-St-Jean

Source: [First Phosphate Corp. company presentation](#)



## Closing remarks

The trend towards a greater market share of LFP batteries used in EVs and energy storage is extremely strong.

In the past, the LFP demand and supply chain was entirely in China. This changed significantly in 2022 and continues to gain momentum in 2023 with almost all major Western auto OEMs embracing LFP battery technology for their standard-range electric cars.

Due to issues surrounding LFP patents, the West was largely unable to manufacture its own LFP batteries, but this has now changed. New LFP cathode plants are now being [planned](#) and soon will be built in the West. This includes Ford's recently announced [US\\$3.5 billion](#) plan to build an LFP battery facility in the USA licensing CATL's technology.

The high-purity phosphate supply chain will need to try to keep pace with these changes. Leading the charge is First Phosphate, trading on a market cap of [C\\$21 million](#). Be sure to take a look at this company, preferably sooner rather than later.

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## Dan Blondal of Nano One Talks about the \$10M Gov't Grant to Accelerate the Cathode Plant



# Targeting NA Lithium-ion Battery Demand

written by InvestorNews | December 6, 2023

In this InvestorIntel interview, Tracy Weslosky talks to [Nano One Materials Corp.](#)'s (TSX: NANO) Founder, CEO, and Director, Dan Blondal about being awarded \$10 million in non-dilutive, non-repayable contributions from Sustainable Development Technology Canada ("SDTC").

Using the funds to fast-track the conversion of its Candiatic lithium iron phosphate ("LFP") facility (North America's only LFP plant) to its patented One-Pot process, Dan explains how Nano One is progressing towards securing supply chains for the North American lithium-ion battery ecosystems.

Speaking about Nano One's strategic partnerships with Rio Tinto, BASF, Umicore, CBMM, and undisclosed automotive OEMs, Dan discusses how the Candiatic facility will help them accelerate licensing and offtake agreements that would then enable the Company to scale the facility larger and lead to commercial production and revenues.

To access the full InvestorIntel interview, [click here](#)

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. It employs approximately 120

people at its innovation and commercialization hubs in British Columbia and Québec, including the only LFP plant and production team in North America. It has strategic collaborations and partnerships, that include Rio Tinto, BASF, Umicore, CBMM, and various automotive OEMs.

Nano One's technology is applicable to electric vehicles, energy storage, consumer electronics, and next-generation batteries in the global push for a zero-emission future. Its One-Pot process, its coated single crystal materials, and its Metal to Cathode Active Material (M2CAM®) technologies address fundamental performance needs and supply chain constraints; they also reduce equipment and raw material costs, operating expenses, and carbon intensity; and they eliminate a significant waste stream for a much-improved environmental footprint.

The Company aims to pilot and demonstrate its technology as turn-key CAM production solutions for license, joint venture, and independent production opportunities. This leverages Canadian talent, critical minerals, renewable energy, and a thriving ecosystem with access to large emerging markets in North America, Europe, and the Indo-Pacific region. Nano One has received funding from SDTC and the Government of Canada and the Government of British Columbia.

To learn more about Nano One Materials Corp., [click here](#)

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Any projections given are principally intended for use as objectives and are not intended, and should not be taken, as assurances that the projected results will be obtained by the Company. The assumptions used may not prove to be accurate and a potential decline in the Company’s financial condition or results of operations may negatively impact the value of its securities. Prospective investors are urged to review the Company’s profile on [Sedar.com](https://www.sedar.com) and to carry out independent investigations in order to determine their interest in investing in the Company.

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](mailto:info@investorintel.com).

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## **Nano One’s Dan Blondal on the**

# Umicore joint development agreement and scaling up the battery materials space

written by InvestorNews | December 6, 2023

Tracy Weslosky chats with [Nano One Materials Corp.](#)'s (TSX: NANO) Founder, CEO, and Director, Dan Blondal, to discuss their recent [Joint Development Agreement](#) with Umicore. Nano One and Umicore have entered into a joint development agreement to improve the throughput and cost of cathode manufacturing with the goal of making Umicore's cathode materials using Nano One's patented M2CAM® One-Pot process. Umicore is a massive company in the battery materials space, with €2.1 billion (turnover of €13.8 billion) in revenue in the first half of 2022, making this announcement exciting for the Nano One team.

Dan goes on to say, "We can't get to terawatt hours of batteries and electric cars in everybody's driveways unless we solve some of the big problems associated with the scale up of this industry." The agreement leverages both parties' technologies for cathode materials to drive down cost, complexity, and environmental footprint. Nano One shareholders can anticipate seeing impacts on the bottom line in years, as the project is measured in multiple phases with go/no-go milestones.

To access the full InvestorIntel interview, [click here](#)

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The company aims to pilot and demonstrate its technology as turn-key CAM production solutions for license, joint venture and independent production opportunities. This leverages Canadian talent, critical minerals, renewable energy, and a thriving ecosystem with access to large emerging markets in North America, Europe and the Indo-Pacific region. Nano One has received funding from the Government of Canada and Government of British Columbia.

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

written by InvestorNews | December 6, 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 13<sup>th</sup> 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.

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## Nano One's cathode materials are inventing the zero-emission battery future

written by InvestorNews | December 6, 2023

Every once in a while, something that you have been working on, seemingly forever, starts to come together and that momentum starts to snowball. Today we are going to discuss a company that recently announced [Q2 results](#) with several exciting highlights that are the result of many years of hard work and determination. And although this article isn't part of the [critical minerals](#) series, this company is inextricably linked to

EV batteries, the processing of critical minerals and has already received funding from the Canadian Federal Government as well as the National Research Council of Canada Industrial Research Assistance Program and is engaged in the Mines-to-Mobility initiative. And if that isn't enough of a teaser for you, their stock price has rallied over 140% since hitting its 52-week low in mid-May. It has been a solid couple of months, to say the least.

The company that has been on a pretty good roll of late is [Nano One Materials Corp.](#) (TSX: NANO), 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 addresses fundamental performance needs and supply chain constraints while reducing costs and carbon footprint.

The second quarter news flow began in late May with [the acquisition](#) of 100% of the shares of Johnson Matthey Battery Materials Ltd. located in Candiac, Québec. The acquisition included the team, facilities, equipment, land and other assets, with highlights of the deal being:

- A team with more than 360 years of scale-up and commercial production know-how
- Team and facilities proven in supplying tier 1 cell manufacturers for automotive
- LFP facility and land strategically located near Montréal and operational since 2012
- Facility and equipment that can serve Nano One's process needs with room to expand

- Expedites Nano One business strategy for LFP and other battery materials

The fully funded C\$10.25 million deal is strategically located and has the benefit of access to a North American ecosystem that will serve the broader global community with cost-effective, resilient, and environmentally sustainable cathode materials. If you've been following my [critical minerals series](#) you'll recognize that this is an opportunistic deal that is the right asset in the right location at the right time.

Nano One quickly followed up with another, even more important (in my opinion), corporate announcement less than a week later by signing a [joint development agreement](#) (JDA) for lithium-ion battery materials with industry giant BASF. The JDA will see the companies co-develop a process with reduced by-products for commercial production of next-generation cathode active materials (CAM), based on BASF's HED™-family of advanced CAM and using Nano One's patented One-Pot process and metal direct to CAM (M2CAM®) technologies. The multi-phase agreement includes a detailed commercialization study for pre-pilot, pilot and scaled up production. BASF, a global leader in chemistry and high-performance lithium-ion battery cathode materials, has recognized Nano One's advanced technology that has the potential to improve the product performance of BASF's high-performance CAM and further simplify the synthesis of battery materials.

And if all the above wasn't validation enough that Nano One has finally made it to the big leagues, less than 2 weeks after the BASF news the company announced a [US\\$10 million equity investment](#) by one of the world's largest mining companies, Rio Tinto. In addition to the investment, Rio Tinto has agreed to enter into a strategic partnership to provide iron and lithium products, all of which will accelerate Nano One's multi-cathode (multi-CAM) commercialization strategy and support cathode

active materials (CAM) manufacturing in Canada for a cleaner and more efficient battery supply chain for North American and overseas markets. The collaboration agreement includes a study of Rio Tinto's battery metal products, including iron powders from the Rio Tinto Fer et Titane facility in Sorel-Tracy, Québec, as feedstock for the production of Nano One's cathode materials, which dovetails nicely with the first deal noted above.

Nano One finished Q2 with cash and cash equivalents of C\$48 million, which represents roughly 14% of their C\$343 million market cap. With abundant capital to deploy, plenty of tailwinds for the industry as a whole, and a team with ample experience in financing, capital growth, technology management, chemistry, engineering, materials science, batteries, and intellectual property, it seems the company is really hitting its stride. I dare say, based on the recent news flow, there could be a lot more to come from Nano One.

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

written by InvestorNews | December 6, 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.

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To learn more about Nano One Materials Corp., [click here](#)

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# Quebec, Canada set to become a critical battery materials' production hub

written by InvestorNews | December 6, 2023

## ***Imperial Mining's world-class Crater Lake Scandium-Rare Earth Project in Quebec will soon complete a PEA***

There have been some great news releases recently of new lithium ion battery materials projects coming to Quebec, Canada. The first was [BASF's cathode active materials and recycling facility](#) planned to be located in Bécancour, Quebec. The second was [General Motors and POSCO Chemical's \\$400 million facility](#) to produce cathode active materials for vehicle batteries, also in Bécancour, Quebec. It is looking like Bécancour in Quebec is to become Canada's battery cathode manufacturing hub. This bodes well for the development of an EV manufacturing industry in Quebec at some stage.

Today's company has key EV related metals, scandium and the magnet rare earths, as well as gold exploration; with three projects located in Quebec, Canada.

[Imperial Mining Group Ltd's.](#) (TSXV: IPG | OTCQB: IMPNF) (Imperial) three projects in Quebec are the:

- [Crater Lake Scandium-Rare Earth Project](#),
- [the Opawica Project](#) (gold exploration), and the
- [La Roncière Project](#) (gold exploration)

Imperial has progressed significantly over the past 6 months, announcing a Maiden Resource, drill results, and commencement of a PEA at their 100% owned Crater Lake Scandium-Rare Earth Project. Today we will look at the Crater Lake project and at what's next for the Company.

## Crater Lake Scandium-Rare Earth Project

### Maiden Resource

As [announced](#) in September 2021, Imperial's NI 43-101 Maiden Resource estimate for the TG Scandium-Rare-Earth Zone at its Crater Lake Scandium-Rare Earth Project is an **Indicated Resources of 7.3 million tons grading 282 g/t  $\text{Sc}_2\text{O}_3$**  and **Inferred Resources of 13.2 million tonnes grading 264 g/t  $\text{Sc}_2\text{O}_3$** . This is an excellent result putting the Crater Lake Project [among the top scandium resources in the world](#). The Resource estimate also highlighted valuable magnet rare earths Nd, Pr, Dy and Tb. The Resource remains open to further expansion.

### Maiden Resource estimate and Resource Model for the TG Zone at the Crater Lake Scandium-Rare Earth Project



Source: [Imperial Mining Group company presentation](#)

### Recent drill results

Since the Maiden Resource, Imperial has had some stellar drill results including:

- [115.8 m \(379.9'\) grading 252 g/t scandium oxide \( \$\text{Sc}\_2\text{O}\_3\$ \)](#) at

the STG Zone. There are also elevated levels of total rare earth oxides plus yttrium (TREO+Y) of up to 0.475 %. The STG Zone is a new discovery, 2km south of the TG North Lobe Resource.

## **PEA**

Work on a 43-101 Preliminary Economic Assessment (PEA) on the TG Zone scandium-rare earth zone resource is advancing well, despite some delays. The PEA results were targeted for Q1, 2022, but now look like being in Q2, 2022.

## **Imperial's Crater Lake Project location map and highlights**



Source: [Imperial Mining Group company presentation](#)

## **Next steps and targets**

- Q2, 2022 – PEA results for the Crater Lake Scandium-Rare Earth Project to be announced.
- Late June 2022 – [A 2,500m drill program](#) on the TG Zone (Northern Lobe and Southern Lobe) to commence.
- End Q3, 2022 – Hydrometallurgical flowsheet development program results due.
- H2, 2022 – An update to the previous 43-101 Maiden Resource Estimate of the TG Zone.
- Late 2022 – Engineering design for Imperial's pilot plant program.
- Mid-2023: Definitive Feasibility Study (DFS), IBA, receipt of construction permits.
- Late Q4, 2025/Early Q1 2026: Delivery of first product (subject to permits and funding).

## **Closing remarks**

Imperial Mining Group is making good progress and has already delivered a solid Maiden Resource at their flagship 100% owned Crater Lake Scandium-Rare Earth Project. The PEA is expected to be out soon in Q2, 2022, with numerous catalysts to follow. Meanwhile, the magnet rare earths prices keep rising. All of this bodes well for the Company, as shown by the successful recent raise of [C\\$3 million](#) and a [C\\$245,355](#) Quebec Government award to optimize their Crater Lake Scandium recovery process.

Scandium is the rarest of the “rare earth” metals. Small additions of scandium to alloys with aluminum give properties of corrosion resistance, tensile strength, ductility, and low weight that make them ideal for weight reduction and safety in large scale battery boxes for EVs and in load bearing aircraft parts.

Imperial Mining Group trades on a market cap of [C\\$26 million](#) and looks to be in the right place at the right time. And let's not forget their gold exploration potential. Stay tuned.