

Nano One Provides Q2 2022 Corporate Update On Commercialisation Strategy and Expansion Plans

written by Raj Shah | May 5, 2022

- *Nano One Materials Quebec established to support expansion towards commercialization*
- *Technology scaling plans to 100 tonne per annum scale to support commercial qualification, detailed engineering and commercial plant design*
- *Patents number 21 and 22 issued and 47 additional patent applications pending*
- *Partnerships and pipeline growth across cathode chemistries continues*

May 5, 2022 ([Source](#)) – Nano One® Materials Corp. (**TSX: NANO**) (**OTC PINK: NNOMF**) (**FSE: LBMB**) (“[Nano One](#)” or the “Company”) is a clean technology company with a patented low carbon intensity process (the “One-Pot Process”) for the production of low cost, high-performance cathode materials used in lithium-ion batteries and is pleased to provide a corporate update on its commercialisation strategy, expansion plans and partnerships.

“The global lithium ion battery materials market is ramping to millions and tens of millions of tonnes to meet terawatt-hours of forecasted energy storage,” said Nano One CEO Mr. Dan Blondal, “however, there are inefficiencies and by-products in the existing supply chain that do not readily scale. We cannot landfill billions of kilograms, we cannot generate more waste than we recycle and we cannot be burning through precious energy

sources with inefficient processes. Nano One's technologies are unique in addressing these costly and wasteful shortcomings in the battery supply chain and we intend to drive change in cathode materials manufacturing for a cleaner and more efficient future."

Technology Scaling

Nano One currently develops and makes kilogram scale cathode active materials (CAM) using its patented One-Pot Process in a 1 tonne per annum (tpa) R&D pilot facility located in Burnaby, BC, Canada. This technology has enabled Nano One to successfully demonstrate to strategic interests, a quantifiable reduced environmental footprint, capital costs and operating costs while meeting or exceeding performance criteria. The Company has a growing list of active collaborators, including more than 15 auto OEMs, battery suppliers, cathode makers and miners, and more than 20 other evaluation programs.

Building on this success, Nano One is planning to scale for commercial qualification and production. It has begun detailed engineering and procurement of equipment for a 100 tpa pilot line with preliminary engineering underway for a multi-1,000 tpa industrial scale commercial demonstration line. These scale-up efforts are being focused initially on Nano One's most mature product, lithium iron phosphate (LFP), to address growing demand in the automotive and energy storage markets in North America, Europe and other emerging jurisdictions.

Expansion to Support Technology Commercialisation

To support its technology commercialization plans, Nano One has incorporated a subsidiary in the province of Québec, as Nano One Materials Québec Inc. (Matériaux Nano One Québec Inc.), so that it may leverage the province's skilled and experienced workforce, raw materials, low-cost hydro-electric energy and its

decades-in-the-making mines-to-mobility battery materials ecosystem. Nano One is evaluating options for its 100 tpa multi-CAM pilot line, starting with LFP, which will serve as a launchpad for sulfate-free cathode production and technology validation. It will also be a collaborative hub to evaluate raw material inputs in different forms with the aim of eliminating the wasteful by-products and inefficiencies entrenched in overseas supply chains. Recruitment is underway, in both Québec and British Columbia, for new job positions to support these plans.

Partnerships & Pipeline

The status of Nano One's partnerships and technical initiatives are summarized below.

- **Automotive OEM's:** Nano One continues to successfully collaborate with all of its automotive partners, at various stages with each, and advancing the development of cathode materials, supply chain economics and engineering plans to meet their future growth plans.
- **LFP:** following optimization work in the One-Pot Process for LFP in 2021, Nano One is working with various collaborators on the evaluation of its LFP materials. The future growth of the LFP market opportunity is driving the initiatives in Québec towards 100tpa piloting.
- **Nickel rich materials:** Phase 1 of Nano One's joint development work with Johnson Matthey on its eLNO high nickel materials was recently completed, successfully, and the project has wound down in anticipation of Johnson Matthey's exit from the battery materials business. Insights gained in this project are relevant to the Nano One's scale-up plans with other materials. Nano One continues to evaluate and develop a range of different nickel-rich NMC (lithium nickel manganese cobalt oxide)

materials, techno-economic models and engineering plans in collaboration with automotive OEMs and other strategic interests in the lithium ion battery supply chain.

- **LNM:** (lithium nickel manganese oxide, also known as high voltage spinel, HVS): Nano One has successfully met LNM project milestones with its Asian cathode partner and Nano One is evaluating its next steps for pilot scale activities. A number of end-user collaborations and material testing programs are underway with Nano One to demonstrate the benefits of its LNM materials in next-gen high voltage batteries.
- **Critical Minerals:** Nano One is building relationships with global mining companies and has successfully validated their products, including nickel, lithium and iron, as raw material inputs to Nano One's sulfate-free M2CAM® process. Nano One has also successfully transitioned its work with CBMM to niobium coating of higher nickel NMC formulations and the joint development of battery grade manganese for NMC and LNM is underway in collaboration with Euro Manganese.
- **Thermal Process Innovation:** Nano One continues to build on thermal processing insights gained from its successful project work with Saint-Gobain and both companies continue to explore opportunities for further collaboration.

Continuous Innovation

Nano One believes that continuous innovation will drive the changes needed for an era of terawatt-hours and is pleased to announce the issuance of Taiwanese patent I753429 related to niobium coated cathode materials and soon to be issued US patent 11,329,284 related to the One-Pot Process. This marks Nano One's 21st and 22nd patents with approximately 47 other patent applications now pending in jurisdictions around the world.

Adam Johnson, VP External Affairs said *“The Government of Canada, the President of the United States, as well as Provincial and State Governments have prioritized the creation of a North American battery supply chain, with tens of billions of dollars focused on processing critical minerals into cathode active materials. As multinational anchor investors begin pouring into Canada, Nano One believes that its technology and strategy can help differentiate North American supply chains by scaling with less complexity and cost, and without the waste implications. We are engaging with various levels of governments and strategic parties to support this critical initiative and we look forward to sharing more news as these partnerships develop and as we continue to execute on our business plans.”*

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About Nano One

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. For more information, please visit www.nanoone.ca

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including but not limited to: the execution of the Company's business strategy including expansion in Québec, any future collaborations that may happen with miners, OEM's or others, the Company's ability to achieve its stated goals, the commercialisation of the Company's technology and patents and other risk factors as identified in Nano One's MD&A and its Annual Information Form dated March 28, 2022, both for the year ended December 31, 2021, and in recent securities filings for the Companies which are available at www.sedar.com. Although management of the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements or forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements and forward-looking information. The Company does not undertake any obligation to update any forward-looking statements or forward-looking information that is incorporated by reference herein, except as required by applicable securities laws. Investors should not place undue reliance on forward-looking statements.