

Nano One and Euro Manganese to Co-Develop Applications for High-Purity Manganese in Lithium-Ion Battery Cathode Materials

written by Raj Shah | October 4, 2021

October 4, 2021 ([Source](#)) – **Nano One® Materials Corp.** (TSX: NANO) (OTC Pink: NNOMF) (FSE: LBMB) (“Nano One”) and **Euro Manganese Inc.** (TSXV: EMN) (ASX: EMN) (OTCQX: EUMNF) (FSE: E06) (“Euro Manganese”).

Highlights:

- Nano One and Euro Manganese have entered into a Joint Development Agreement.
- Joint activities will focus on developing manganese products expected to be produced by Euro Manganese for use in cathode materials made by Nano One, in the context of rapidly rising demand for high-purity manganese products.
- Manganese will be sourced by Euro Manganese’s proposed Chvaletice Manganese Project and refined into high purity manganese products.
- Cathode materials will be made using Nano One’s patented One-Pot, M2CAM and coated nanocrystal technologies.

Nano One® is a clean technology company with patented processes for the low-cost, low-environmental footprint production of high-performance cathode materials used in lithium-ion batteries, and Euro Manganese is a battery raw materials company developing a significant manganese deposit in the Czech

Republic. Both companies are pleased to announce a Joint Development Agreement.

The two companies will collaborate on developing economically viable and environmentally sustainable applications of high-purity manganese expected to be produced by Euro Manganese from its proposed Chvaletice Manganese Project. The manganese will be evaluated by Nano One in the formation of its innovative cathode materials including LNMO (lithium nickel manganese oxide) and nickel rich NMC (lithium nickel manganese cobalt oxide).

LNMO and NMC materials will be prepared using Nano One's patented One-Pot process, coated nanocrystal powders and M2CAM technology (Metal direct to Cathode Active Material), enabling the use of sulfate-free metals and lithium carbonate as low-cost and environmentally sustainable feedstocks.

LNMO, also known as high voltage spinel (HVS), and NMC both have great potential in conventional and solid-state battery applications for electric vehicles, renewable energy storage and consumer electronic devices. LNMO delivers energy and power on par with NMC and is more cost effective because it is manganese rich, cobalt free, low in nickel and does not require excess lithium. LNMO also operates at a voltage that is 25% higher than commercial high nickel cathodes, enabling fewer cells, improved productivity, efficiency, thermal management, and power.

"Nano One has ambitious plans to be a major participant in the battery driven transformation of mobility and renewable energy storage, and we are doing so by changing how the world makes cathode materials," said Nano One CEO, Mr. Dan Blondal. "Our LNMO is unique, differentiated and well positioned to address the automotive industry's recent interest in manganese rich batteries and our coated nanocrystal NMC is targeting demand for increased durability in long range battery applications.

Manganese plays a critical role in both chemistries and we are aligned with Euro Manganese in developing low-cost high-performance cathode materials with a differentiated and environmentally sustainable supply chain."

Mr. Marco Romero, Euro Manganese's CEO, said, "We are delighted to be working with Nano One on developing ways to use our manganese products in its ground-breaking process for making cathode active materials at a time when demand for high-purity manganese products is rising rapidly. Euro Manganese stands to become a leader in sustainably produced battery grade manganese products. We look forward to a day when our manganese and Nano One's cathode materials are an integral part of the world's battery supply chain and helping drive the electrification of mobility."

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 direct 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.

About Euro Manganese:

Euro Manganese Inc. is a battery materials company whose principal focus is advancing the development of the Chvaletice Manganese Project, in which it holds a 100% interest. The proposed Project entails re-processing a significant manganese deposit hosted in mine tailings from a decommissioned mine, strategically located in the Czech Republic. The Company's goal is to become a leading, competitive and environmentally superior primary producer of ultra-high-purity Manganese Products in the heart of Europe, serving the lithium-ion battery industry, as well as other high-technology applications. For more information, please visit www.mn25.ca.

This announcement was authorized for release by the CEOs of Euro Manganese and Nano One.

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high-purity manganese in cathode materials. Generally, forward-looking information can be identified by the use of terminology such as 'believe', 'expect', 'anticipate', 'plan', 'intend', 'continue', 'estimate', 'may', 'will', 'should', 'ongoing', 'target', 'goal', 'potential' or variations of such words and phrases or statements that certain actions, events or results "will" occur. Forward-looking statements are based on the current opinions and estimates of management of the Companies as of the date such statements are made and are not, and cannot be, a guarantee of future results or events. Although management of the Companies have 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. These forward-looking statements involve numerous known and unknown risks, assumptions and uncertainties, and other factors that may cause the actual results, level of activity, performance or achievements of the Companies to be materially different from those expressed or implied by such forward-looking statements or forward-looking information. Risks, assumptions and uncertainties including but not limited to: the Companies' ability to achieve their stated goals, reduced demand for the Companies' potential products, availability of materials, risks related to foreign operations and other risk factors as identified in Nano One's MD&A and its Annual Information Form dated March 15, 2021, both for the year ended December 31, 2020, and in Euro Manganese's Annual Information Form dated December 16, 2020, for the year ended September 30, 2020, and in recent securities filings for the Companies which are available at www.sedar.com. Accordingly, readers should not place undue reliance on forward-looking

statements and forward-looking information. The Companies do 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.

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