

Nano One Enters Agreement with Global Automotive Company to Develop and Evaluate Manganese Rich Batteries

written by Igor Makarov | September 30, 2021

September 30, 2021 ([Source](#)) – Highlights:

- Nano One successfully completes 2019 cathode development project and enters Memorandum of Understanding (MOU) with a Global Automotive Company.
- MOU to focus on low cost, cobalt-free, manganese rich, LNMO batteries enabled by Nano One's patented One-Pot process.
- Multi-phase agreement includes performance testing and economic feasibility of cell development for potential electric vehicle integration.
- Patented One-Pot process and M2CAM technology enables feedstock flexibility, lower costs, enhanced cycle life and sustainability improvements.

Nano One® Materials Corp. (TSX: NANO) (OTC Pink: NNOMF) (FSE: LBMB) (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. Nano One is pleased to announce that it has completed a project with a global automotive OEM (Original Equipment Manufacturer), that was first announced on [June 20, 2019](#) and the two parties have signed an MOU to evaluate manganese rich cathode materials for potential use in automotive scale battery cells.

The completed project successfully demonstrated the synthesis, performance and improved durability of a proprietary and experimental nickel rich cathode formulation, using Nano One's patented One-Pot process. Nano One has built on this success and has now signed an MOU with the same OEM for the multi-phase development and evaluation of LNMO (Lithium Nickel Manganese Oxide) batteries using cathode materials prepared by Nano One. Work under the MOU will include performance testing, economic feasibility and future potential commercial collaboration for jointly developed battery cells using Nano One's advanced LNMO cathode materials.

"This latest development in our relationship comes on the back of several years of collaboration and test work on a range of Nano One cathode materials," stated Dr. Stephen Campbell, CTO of Nano One, *"and it is a testament to our team, technology and collaborative spirit. Our innovation engine led to an advanced LNMO cathode material with demonstrated benefits that has attracted the attention of global OEMs and materials companies."*

LNMO, also known as high voltage spinel (HVS) has great potential in next-generation lithium-ion batteries for electric vehicles, renewable energy storage and consumer electronic devices. It delivers energy and power on par with other high-performance cathodes and is cost effective because it is cobalt free, low in nickel and does not require excess lithium.

LNMO's three-dimensional spinel structure enables lithium ions to flow more quickly than other types of cathodes for fast charging and discharge and keeps it from expanding, contracting and straining the battery in both liquid and solid-state battery systems.

LNMO also has an operating voltage that is 25% higher than commercial high nickel cathodes, enabling fewer cells in

applications such as power tools and electric vehicles while providing improved productivity, efficiency, thermal management, and power.

LNMO is underpinned by Nano One's patented One-Pot process which is designed to form "coated single crystal" cathode powders, for increased durability in all cathode materials including LFP (Lithium Iron Phosphate), NMC (Nickel Manganese Cobalt) and LNMO. The process also enables these materials to be made directly from metal powders and lithium carbonate and this technology feature, known as M2CAM (Metal to Cathode Active Material), addresses cost, energy and environmental sustainability objectives across the entire lithium-ion battery supply chain.

The name of the Global OEM and details of the project remain confidential in accordance with the terms of the MOU. Nano One will provide periodic updates as suitable.

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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