Successful Completion of Phase Two of Co-Development Agreement with Leading Niobium Producer CBMM

written by Raj Shah | May 17, 2023

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Highlights:

- Nano One successfully completed phase two of co-development work with the world's leading supplier of Niobium products and technology, CBMM.
- CBMM's Niobium validated in high-nickel (Ni>90%) NMC cathode made with Nano One's sulfate-free M2CAM® manufacturing technology.
- Nano One's technology enables cost effective single nanocrystal coatings with CBMM's product to enhance cathode durability, meaning longer lasting batteries.
- Creates business opportunities for both companies. CBMM sees potential for new market demand for their sustainable products.

Nano One® Materials Corp. ("Nano One" or the "Company") is a clean technology company with patented processes for the production of lithium-ion battery cathode materials that drive down cost, complexity, energy intensity and environmental footprint. The Company is pleased to announce the successful completion of phase two of its advanced lithium-ion battery

cathode materials coating co-development project with CBMM, the world’s leading supplier of Niobium products and technology.

Phase two successfully utilized CBMM’s Niobium product to make single nanocrystal coated high-nickel (Ni>90%) NMC cathode active material. Enhanced durability was displayed using Nano One’s proprietary One-Pot process and Metal to Cathode Active Material (M2CAM®) technology. The One-Pot process simplifies the manufacturing process by combining all feedstock materials, including coating agents, in one step up front to produce a precursor cathode active material (“PCAM”) that is already lithiated, in comparison to a multi-step process deployed by most in the industry. In addition, Nano One’s technology enables reduced kiln residence time in the thermal treatment step, making it more energy efficient when compared to the incumbent process and the M2CAM technology uses metal powders as the feedstock, instead of sulfates based battery metals; this removes a sodium-sulphate waste stream which is problematic. Collectively, Nano One’s technology enables improved CAM performance, a lower environmental footprint while reducing capital and operating costs when compared to the incumbent process.

“During Phase One we successfully demonstrated the Niobium coating technology to NMC811,” said Nano One CTO Dr. Stephen Campbell. “Phase two’s focus was to demonstrate the coating technology at a higher nickel CAM which we have done successfully using our One-Pot process and M2CAM technology. As a result of our confidence in CBMM’s product, we decided to implement this product into all of our nickel based CAM and have had great success. Achieving these milestones re-enforces the flexibility and strength of the One-Pot process as a platform technology and brings confidence in the raw materials supply chain to our cathode and automotive collaborators.”

This success opens new doors of opportunity for the two companies to market and cross-collaborate with their existing customer bases to create market pull both for Nano One's patented technology and develop a new market for CBMM's sustainable, high quality product. This also brings a secure and resilient supply chain partner to our list of collaborators as an existing automotive supply chain participant as we pursue new opportunities fueled by the Inflation Reduction Act (IRA). This work validates strategic planning and business development efforts that will ultimately maximize opportunities for the company and provide shareholder value.

The next phase, phase three, will focus on scaling of the One-Pot and M2CAM technology using CBMM's product and it includes electrochemical evaluation in full pouch cells to demonstrate commercial viability.

CBMM's Head of Battery Program, Rogério Marques Ribas, said that "The results of both phase one and phase two are exciting for us as it shows that by combining our technologies we are able to address a larger market of next generation of lithium-ion battery materials and be more sustainable. We look forward to scaling our successes and bringing the products to market. We have well established customers currently active in the battery supply chain using our product for anode material applications, and envision new market opportunities in cathode active materials."

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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. With strategic collaborations and partnerships, including automotive OEMs and strategic industry supply chain companies like BASF, Umicore and Rio Tinto. Nano One's technology is applicable to electric vehicles, energy storage, and consumer electronics, reducing costs and carbon intensity while improving environmental impact. The Company aims to pilot and demonstrate its technology as turn-key production solutions for license, joint venture, and independent production opportunities, leveraging Canadian talent and critical minerals for emerging markets in North America, Europe, and the Indo-Pacific region. Nano One has received funding from SDTC and the Governments of Canada and British Columbia.

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

About CBMM

World leader in the production and marketing of Niobium products, CBMM has more than 400 customers in 50 countries. Headquartered in Brazil, with regional offices in China, the Netherlands, Singapore, Switzerland, and the United States, the company supplies cutting-edge products and technology to the infrastructure, mobility, aerospace, healthcare, and energy sectors. The company has a New Business front to support its growth plans through the development of new applications that is focused on accelerating the entry into the global market of Niobium technology. In the last 4 years, CBMM has made strategic investments in companies such as Echion and Battery Streak aiming at new developments in Niobium materials for Li-ion batteries. Since its foundation, CBMM has developed projects in Brazil and in several countries around the world to foster the adoption of Niobium technology by several industries. For further information, please visit https://cbmm.com/en/

Find out more about Niobium technologies
Website: Niobium.tech
LinkedIn: Niobium.tech
Instagram: @Niobium.tech
Twitter: Niobium_Nb
Youtube: Niobium.tech

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Cautionary Notes and Forward-looking Statements

Certain information contained herein may constitute "forward-looking information" and "forward-looking statements" within the meaning of applicable securities legislation. All statements, other than statements of historical fact, are forward-looking statements. Forward-looking information in this news release includes but is not limited to: the advancement and completion of the phase 3 work program, the execution of the Company's development plans which are contingent on such support and awards and the commercialization of the Company's technology and patents; the ability to execute on opportunities fueled by the Inflation Reduction Act (IRA). 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 as of the date such statements are made are not, and cannot be, a guarantee of future results or events. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual

results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking statements or forward-looking information, including but not limited to: the advancement and completion of the phase 3 work program and any anticipated results thereof, any future collaborations that may happen with the OEM's or other partners in the battery supply chain, the Company's ability to achieve its stated goals, the ability to execute on opportunities fueled by the Inflation Reduction Act (IRA), the commercialization 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 29, 2023, both for the year ended December 31, 2022, and in recent securities filings for the Company 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.

SOURCE: Nano One Materials Corp.