

A cleaner greener world is what Nano One Materials is all about

written by Dean Bristow | May 28, 2021

The market sure liked the latest news that [Nano One Materials Corp.](#) (TSXV: NNO) received [conditional approval](#) to graduate to the Toronto Stock Exchange under a new trading symbol “NANO” as the share price was up an impressive 13% yesterday. Perhaps this reflects market interest of the exciting potential of this interesting cleantech innovator.

For starters, Nano One is a technology company with a patented process for the low cost production of high performance cathode materials used in lithium ion batteries. You know, the batteries that are going to power virtually every battery electric vehicle and store the power from all the renewable energy sources coming online along with all your portable electronic devices. In other words, a pretty large addressable market. Nano One is in the process of showing the world that they have a better design for coating the cathode of a lithium ion battery.

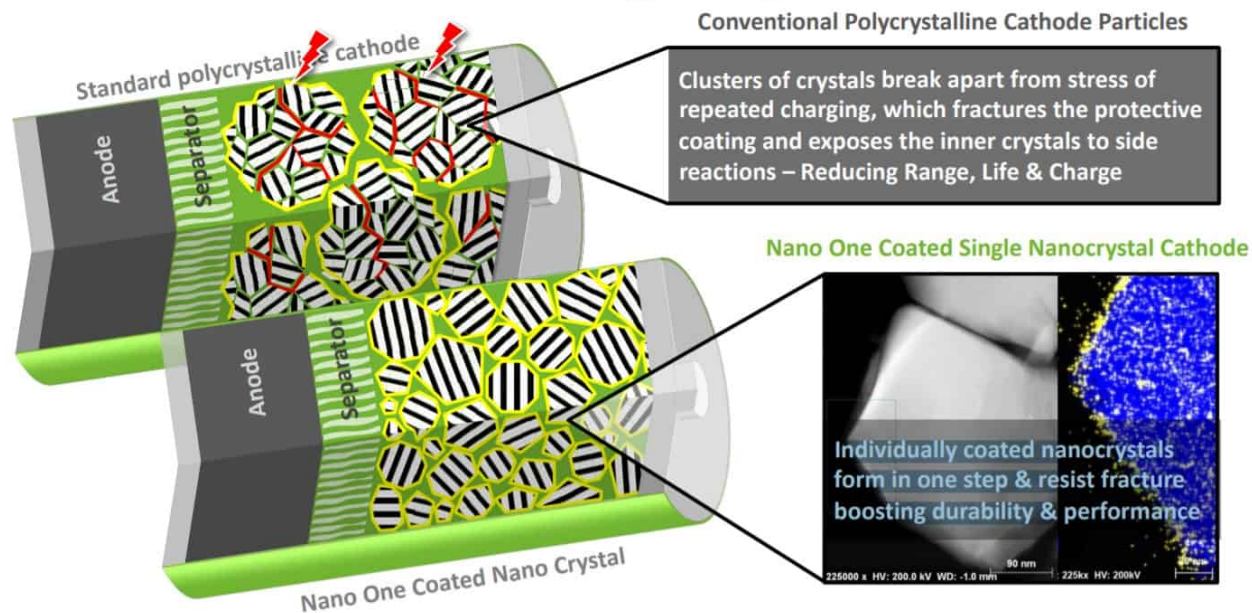
All lithium ion batteries have cathode materials and it's estimated that the cathode represents roughly 25% of the cost of the overall battery. This is where Nano One has focused on trying to reduce costs and improve efficiency. The Company's silver bullet (that's an expression, I don't think there's any silver involved) is the patented “One Pot Process” which streamlines the production process and thereby reduces cost while enabling higher performance cathode materials versus the standard manufacturing process.

Cost reduction comes from the process being able to go directly

from metals (lithium, nickel, cobalt and manganese) to cathode powder without having to convert it to sulphate or in lithium's case, a hydroxide. This results in reduced costs for raw materials and energy input which in turn makes for a greener, lower carbon footprint overall. Cost savings can be several thousands of dollars per ton for cathode material.

The One Pot Process also helps on the performance side. As a battery charges and discharges, conventional polycrystalline cathode particles start to break apart from the stress of repeated charging. Over time this can fracture the protective coating and expose the inner part of the crystals to side reactions. This has the effect of reducing the range, life and charge of a battery. The Nano One process individually coats nanocrystals which form in one step and resist fracturing thus boosting durability and in turn full life cycle performance.

Nano One – Coated Single Crystal Ni Rich NMC



www.nanoone.ca

Source: [Nano One Materials Corporate Presentation](#)

The technology has been proven to work on several occasions including a [joint development program](#) focused on LNMO cathode

materials (lithium nickel manganese oxide) that was successfully completed with validation by a multi-billion-dollar Asian cathode material producer and in [collaboration](#) with the University of Michigan on the development of innovative solid-state battery technology, to highlight the most recent updates. As well the Company is involved in strategic partnerships with Volkswagen, an undisclosed large US auto producer, Pulead Technology Industry (a highly respected Chinese cathode producer) and Saint Gobain (a 400-year-old materials company). In February Nano One announced its [M2CAM](#) (metal to cathode active material) initiative to engage in discussions with large integrated miners to reduce environmental footprints and maximize upstream value in the global battery supply chain.

As you can see, this company ticks all the boxes for a greener, cleaner world. And the best part is, they have more than enough cash to continue ongoing research and development, pilot plant expansion, business development and strategic initiatives having [raised \\$29 million at the start of April](#) to go along with the [\\$30 million of working capital](#) they finished Q1/21 with. Nano One appears to have the right solution at the right time and if the new green economy is serious about reducing its carbon footprint we all know who should be at the top of the list.

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