

ASX ANNOUNCEMENT

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Lithium Australia's high-capacity cathode material available for commercial testing

HIGHLIGHTS

- Lithium Australia subsidiary VSPC has produced lithium manganese ferro phosphate ('LMFP') cathode powder of advanced and consistent quality, for use in lithium-ion batteries.
- VSPC's LMFP has an energy density significantly greater than that of standard lithium ferro phosphate ('LFP') powders.
- The LMFP will be made available to battery manufacturers for testing in June 2021.
- Lithium Australia's proprietary technologies facilitate the direct synthesis of LMFP from 'waste' spodumene, without the necessity of manufacturing lithium hydroxide or lithium carbonate.

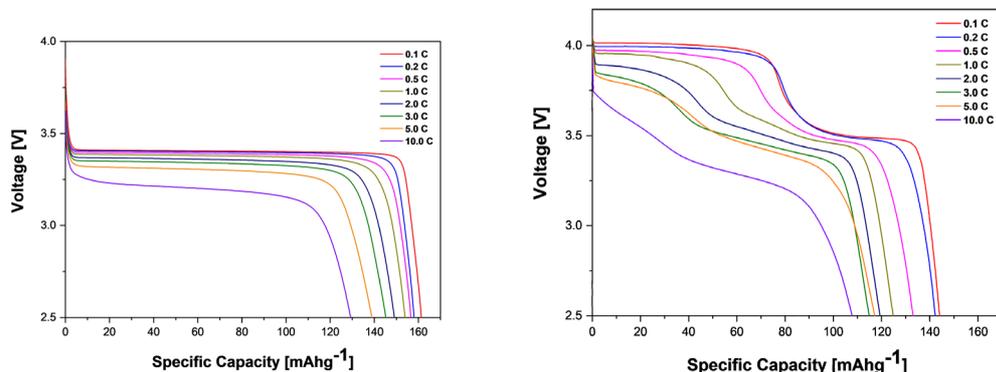
VSPC Ltd ('VSPC') is a wholly owned subsidiary of Lithium Australia NL (ASX: LIT, 'the Company').

A developer of advanced cathode powders for lithium-ion batteries ('LIBs'), VSPC has extensively researched, and ultimately developed LMFP, a high-capacity LIB cathode powder that contains no nickel or cobalt. Although LMFP has an energy density similar to that of the more common, nickel-based LIBs, it is estimated to be cheaper, safer and longer lasting than those nickel variants.

Breakthrough R&D

VSPC has been working on the advanced synthesis of next-generation LIBs, having leveraged off its experience in the manufacture of LFP powders to do this. Laboratory testing of the LMFP produced at VSPC's pilot plant and testing facility in Brisbane, Queensland has demonstrated its quality and the consistency of that quality, something that has long eluded other researchers in the field.

The discharge curves shown below are for LIB cells manufactured from VSPC-produced LFP (left) and VSPC-produced LMFP (right). The higher voltage delivery of the LMFP cells results in an increase in energy density of up to 25% when compared with that of the LFP cells (energy density being approximated by the area below the curves – [see ASX release dated 3 December 2020](#)).



Availability of test product

A number of regular VSPC clients will test the LMFP, using it to manufacture commercial-format LIBs. More LMFP – in limited quantities – will be made available to battery manufacturers focusing on the electric vehicle ('EV') market, on the basis that they use the LMFP to produce safe, cost-effective alternatives to nickel-based EV battery packs (those interested should contact adrian.griffin@lithium-au.com).

Why LFP and LMFP?

Both LFP and LMFP have an 'olivine' crystal structure characterised by very strong chemical bonds. This makes them more stable than their 'spinel'-type nickel/cobalt LIB counterparts.

The olivine structure in both LMFP and LFP ensures the following battery characteristics.

- Superior safety.
- Extended life.
- Lower production costs.
- A wider range of operating conditions.

Enhanced sustainability across the board

The sustainability of the planet's lithium resources in today's burgeoning market for LIBs is of concern to the battery industry. LMFP and LFP both contain about 20% less lithium per unit of stored electrical energy than nickel/cobalt LIBs, and this in itself makes a compelling case for the production of LMFP.

Moreover, the Company has developed proprietary technology for the recovery of materials considered 'waste' by the mining industry, one being its [patented LieNA[®] process](#).

LieNA[®] is capable of refining fine and low-grade spodumene (the principal lithium ore) that is generally considered 'waste' and discharged to tailings during the lithium concentration process. This technology, then, has the potential to extend mining

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reserves at little additional operating cost. Also, the process involves is no roasting phase, further reducing the carbon footprint of battery production.

Conveniently too, the preferred output of the LieNA[®] process is lithium phosphate, which can be used directly in the synthesis of LMFP.

Comment from Lithium Australia managing director Adrian Griffin

"In March of this year, for the first time China's output of LFP-type LIBs eclipsed that of nickel/cobalt LIBs. In fact, worldwide there's a growing trend away from the use of nickel and cobalt in such batteries, a step in the right direction in terms of safety and the sustainability of the industry as a whole. LMFP is poised to become the next generation of LIB, which can make EVs cheaper and safer but still with great range. The Company's LMFP is leading the way in this regard."

Authorised for release by the Board.

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About Lithium Australia NL

Lithium Australia aims to ensure an ethical and sustainable supply of energy metals to the battery industry (enhancing energy security in the process) by creating a circular battery economy. The recycling of old lithium-ion batteries to new is intrinsic to this plan. While rationalising its portfolio of lithium projects/alliances, the Company continues with R&D on its proprietary extraction processes for the conversion of *all* lithium silicates (including mine waste), and of unused fines from spodumene processing, to lithium chemicals. From those chemicals, Lithium Australia plans to produce advanced components for the battery industry globally, and for stationary energy storage systems within Australia. By uniting resources and innovation, the Company seeks to vertically integrate lithium extraction, processing and recycling.

Forward Looking Statements

This announcement contains forward-looking statements. Forward-looking statements are subject to a variety of risks and uncertainties that it is beyond the Company's ability to control or predict and which could cause actual events or results to differ materially from those anticipated in such forward-looking statements.

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