ASX ANNOUNCEMENT

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European patent for VSPC nano-powder production granted

HIGHLIGHTS

- **VSPC Ltd, a subsidiary of Lithium Australia NL (ASX: LIT), has had its process patent approved by the European Patent Office.**
- **The VSPC process produces nano-structured metal-oxide products simply and efficiently.**
- **Nano-structured oxides are advanced materials vital to many applications, including fuel cells, supercapacitors, catalysts and battery materials.**

Comment from Adrian Griffin, managing director of Lithium Australia

"VSPC has been granted a European patent for the production of complex metal-oxide nanoparticles. A low-cost process, it accurately controls the chemical composition and distribution of the chemical elements within in a predetermined crystal structure. The resulting products can be used in many applications, among them catalysts, solid-oxide fuel cells, super conductors and lithium-ion batteries ('LIBs'), to name but a few. This greatly enhances Lithium Australia's arsenal of intellectual property and reinforces our position as a significant supplier of innovative technology to the battery industry."

VSPC's pilot plant and R&D facility in Brisbane, Australia.

Introduction

The European Patent Office has granted the VSPC patent entitled 'Method for Producing Fine-Grained particles (EP 1 812 340 B1)'. This technology is relevant to advanced nano-structured materials used in a wide variety of existing and emerging technologies, including catalytic materials for automobiles and chemical refining. It is also applicable to electrochemical applications, batteries, supercapacitors and fuel cells, all of which are important in terms of global energy transformation.

Fine-grained metal-oxide and nanomaterials require consistency of chemical composition and crystal structure. As such, they are often difficult and expensive to

produce via conventional methods involving inefficient and energy-intensive process steps. Typically, these materials perform better when characterised by very small particles with a high surface area for a given volume of material.

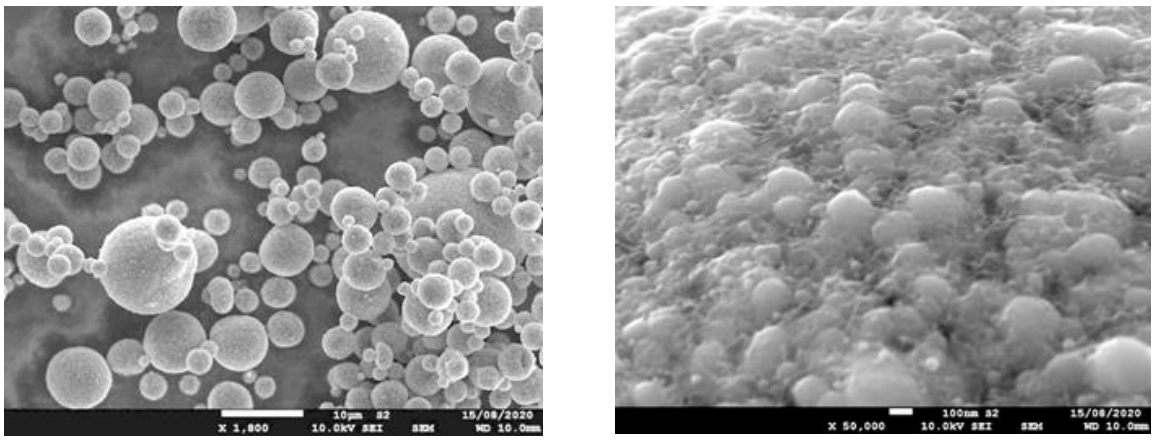
Traditional methods of manufacturing nano-metal-oxides generally involve extensive milling of solids produced from solid-state synthesis or precipitation from solution. VSPC's technology, however, adopts a simple, solution-based approach using surfactants and thermal processing to produce consistent nano-structured materials. This now-patented process technology, which is scaleable, is relevant to wide range of advanced oxide materials and technological applications.

Advanced materials for batteries

VSPC's process technology is relevant to a number of battery materials, among them metal-oxide cathode powders (e.g. lithium manganese oxide (LMO), lithium nickel manganese oxide (LMNO), lithium nickel manganese cobalt oxide (NMC)), as well as phosphate-based cathode materials like lithium ferro phosphate ('LFP') and lithium manganese ferro phosphate ('LMFP'). Most other cathode-powder types can also be produced using the VSPC process.

Lithium titanate ('LTO'), used as an anode material in long-life lithium-ion batteries, is another medium that can be manufactured using the VSPC process.

Application of VSPC's process paves the way for the production of other high-capacity lithium-rich metal-oxide cathode materials, such as lithium niobium manganese oxide, that may provide the key to greater safety, longevity and high energy-density in lithium-ion batteries.



Cathode powders produced using the VSPC process. The left image shows particle aggregates (scale bar: 10 microns) and the right image shows the individual particles (scale bar: 100 nanometres).

The VSPC advantage

As a developer of high-performance battery cathode materials, VSPC is strongly focused on LFP-based cathode powders, plus derivatives that enhance their quality and performance, including LMFP. VSPC's advanced cathode powders are manufactured at its pilot plant and R&D facility in Brisbane, Queensland, Australia.

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Advancing cathode powder technology

To date VSPC has achieved the following.

- Manufacture of high-quality LFP cathode powders (27 Nov 2019).
- Improving the energy density of LFP via the addition of manganese (3 Dec 2020).
- Reducing the cost of LFP and LMFP cathode powders (16 Dec 2020).

VSPC is currently completing a preliminary feasibility study for the production of LFP cathode material for a number of locations outside China. The results of that study are due in the March 2021 quarter.

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.

About VSPC

VSPC, which operates a battery material R&D facility and pilot plant in Brisbane, Queensland, Australia, has developed advanced processes for the manufacture of cathode powders applicable to all lithium-ion battery chemistries, as well as anode materials like LTO. Its processes for nano-structured battery cathodes can be characterised as: simple, flexible, scaleable and cost-competitive (given the ability to use low-cost raw materials and recycled lithium as feed); allow precise control of chemical composition, particle size and surface characteristics, and can be adapted to a range of materials. VSPC is currently commercialising its process technology for the manufacture of cathode materials for LFP- and LMFP-type lithium-ion batteries.

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