

## ASX ANNOUNCEMENT



10 March 2021

## VSPC patent for manufacture of LFP cathode powder accepted

### HIGHLIGHTS

- The Australian patent applied for by VSPC (a wholly owned subsidiary of Lithium Australia) for its proprietary cathode material manufacturing process has been accepted for grant.
- VSPC's method of synthesising lithium metal phosphates confirmed to be novel and inventive.
- Intellectual property protection for the VSPC process will last 20 years.

ACN: 126 129 413  
ASX: LIT

Level 1  
677 Murray St  
West Perth WA 6005

PO Box 1088  
West Perth WA 6872

Phone +61 (0) 8 6145 0288  
Fax +61 (0) 8 9475 0847

info@lithium-au.com  
[lithium-au.com](http://lithium-au.com)

### Comment from Lithium Australia MD Adrian Griffin

"Acceptance of the patent application for the production of phosphate-based cathode materials for LIBs is a great step forward for the Company. Lithium Australia/VSPC can now provide practical solutions for electric vehicle manufacturers seeking cobalt-free batteries. Further, the Company's recent development of LMFP demonstrates the potential for phosphate-based, nickel- and cobalt-free batteries to achieve high energy densities, an ideal combination in terms of e-mobility applications. Patent protection will provide us with a significant cost advantage in the production cycle of what is currently the most rapidly expanding sector of the battery industry."

### Introduction

Lithium Australia NL (ASX: LIT, 'the Company'), through its wholly owned subsidiary VSPC Ltd ('VSPC'), is developing efficient and sustainable process technologies to manufacture materials for lithium-ion batteries ('LIBs').

During the past two years, VSPC has simplified its process for the production of lithium metal phosphate cathode powders, enabling the use of a broader range of raw materials as feed. This has significantly reduced the cost of manufacturing lithium ferro phosphate ('LFP') and other lithium metal phosphate materials, among them lithium manganese iron phosphate ('LMFP'). The VSPC process includes novel and inventive steps; hence, the filing of the patent.

### Cathode material production

VSPC's process technology offers numerous advantages with respect to the manufacture of both LFP and LMFP, including the following.

- Flexibility with respect to the types of lithium raw materials selected as feed – lithium phosphate, lithium carbonate or lithium hydroxide can be used.
- Precise, up-front control of process chemistry.

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- The ability to control particle characteristics at both nano- and micro-scale.
- Simplified final-stage processing.
- Optimised product morphology for energy-storage applications.

### Reducing chemical costs

VSPC's patented process technology reduces chemical costs by 15%, which is considerable given that the chemicals used typically account for more than two-thirds of the entire cost of cathode material manufacture. The technology also integrates well with VSPC's upstream technology for low-cost production of iron reagents – an outcome of work under a project co-funded by the AMGC (Australian Manufacturing Growth Centre), this reduces chemical costs by a further 10%.

### Australian patent

VSPC has received a *Notice of acceptance for patent application* from IP Australia. It confirms acceptance of application number 2020203801 for application P0018351AU, entitled *Method for making lithium metal phosphates* and provides 20 years' of intellectual property protection within Australia. Filing of the Australian patent application also sets a worldwide priority date for the invention.

Authorised for release by the Board.

#### Adrian Griffin

Managing Director

Mobile +61 (0) 418 927 658

[Adrian.Griffin@lithium-au.com](mailto:Adrian.Griffin@lithium-au.com)

#### Barry Woodhouse

CFO and Company Secretary

Mobile +61 (0) 438 674 259

[Barry.Woodhouse@lithium-au.com](mailto:Barry.Woodhouse@lithium-au.com)

### About Lithium Australia NL

Lithium Australia aims to ensure an ethical and sustainable supply of energy metals to the battery industry by creating a circular battery economy and enhancing energy security in the process. Recycling spent lithium-ion batteries to create new ones is intrinsic to this plan. The Company is rationalising its portfolio of lithium projects/alliances while furthering its research into, and development of, proprietary extraction processes for the conversion of all lithium silicates (including mine waste), and of unused fines from spodumene processing, to lithium chemicals. Lithium Australia will use those chemicals to produce advanced components for the battery industry globally and for stationary energy storage systems within Australia. By uniting resources and innovation, the Company aims to vertically integrate lithium extraction, processing and recycling and achieve a more sustainable battery industry as a result.

### Media contacts

Adrian Griffin, Lithium Australia NL

08 6145 0288 | +61 (0) 418 927 658

Kevin Skinner, Field Public Relations

08 8234 9555 | +61 (0) 414 822 631