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Lithium Australia's VSPC cathode powder meets international performance specifications

Following technical meetings this month, VSPC Ltd ('VSPC') is pleased to announce the completion of stage 1 cathode-material testing with potential customers in China and Japan. (VSPC is a wholly owned subsidiary of Lithium Australia NL (ASX: LIT).

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HIGHLIGHTS

- **VSPC's lithium-ferro-phosphate ('LFP') cathode material has met specifications for power and energy cells at DLG Power Battery (Shanghai) Co., Ltd. ('DLG').**
- **VSPC is now establishing a supply chain of LFP for its Chinese customers in 2021.**
- **VSPC's LFP cathode material performed well in initial electrochemical tests conducted by potential Japanese customers.**
- **VSPC is now targeting supply of LFP to Japanese customers in 2022, in line with growing international demand for LFP batteries in transport and energy-storage applications.**

China

Evaluation of VSPC's Gen 4 LFP cathode material commenced in March 2019 at DLG's R&D facility in Shanghai, China. The materials – assessed in a commercial 18650 battery-cell format – were tested under a range of electrochemical and temperature conditions and subjected to long-term cycle testing. It was concluded that VSPC's LFP material met DLG's stringent specifications for use in lithium-ion battery ('LIB') cells for both power and energy applications

LIT signed a letter of intent ('LoI') with leading Chinese battery producer DLG Battery Co., Ltd. and has incorporated a 50:50 jointly owned business, Soluna Australia Pty Ltd for the exclusive supply and sale of Soluna Battery packs and modules in Australia, and will form a technology alliance that will fast-track the commercialization of VSPC's patented cathode powder technology for use in DLG batteries. Meeting DLG's stringent cathode material specification is an important precursor to DLG agreeing to purchase VSPC LFP battery cathode product for use in its batteries.

VSPC is now establishing a supply chain for delivery, in 2021, of LFP to various LIB cell makers in China, including DLG. Target applications include LIB cells for energy storage and large transport vehicles.

Japan

VSPC has also received positive feedback from Japanese battery-cell producers, which are evaluating its LFP products at laboratory scale. To date, the electrochemical performance of VSPC's LFP material has met the Japanese requirements and VSPC is



working to refine its product properties for specific applications and prepare for larger-scale testing in 2020.

The market for LFP is expected to grow strongly in the next 10 years, due to its particular suitability for energy storage and certain types of transportation; this includes as a replacement for lead-acid batteries in various automotive applications and as back-up for power supplies. Commercial sales of VSPC LFP into the Japanese market are anticipated in 2022.

While potential customers are testing the cathode product no formal binding offtake agreements are currently in place and shareholders should be aware that there is no certainty binding offtake agreements will be reached. Once any offtake agreement becomes binding the Company will disclose this to the market.

Advantages of LFP cathode materials

The attributes of LFP that make it the ideal LIB chemistry for energy-storage and some transportation applications include the following.

- **Deep discharge**
- **High recharge rates**
- **High power delivery**
- **Long design life**
- **Low cost**
- **Wide operational temperature range**
- **Very safe (no thermal runaway)**

Thus, LFP is ideally suited to the market for power storage when energy density is less critical, as is the case with hybrid vehicles, e-buses and logistic trucks, as well as military and marine applications.



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Comment from Lithium Australia MD Adrian Griffin

“This year has seen a significant shift in the Chinese battery markets, with greater demand for LFP for use in short-range electric vehicle and energy-storage applications. The test results from battery producers in China and Japan show clearly that the performance of VSPC cathode powders is comparable to other materials currently supplied for the production of LFP LIBs. We look forward to furthering our partnerships within the battery industry and, ultimately, supplying products that meet not only VSPC’s stringent quality specifications but those of its international customers.”

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ASX ANNOUNCEMENT

**About VSPC Ltd, a wholly owned subsidiary of Lithium Australia**

VSPC has developed advanced processes for manufacturing LIB cathode powders at its R&D and pilot plant facility in Brisbane, Queensland.

The cathode powders produced by VSPC have the following attributes.

- **Simple nanotechnology produces superior battery cathodes**
- **Control of composition and particle size is precise**
- **Quality control is unparalleled**
- **Production costs are low**

About Lithium Australia

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 rationalisation of its portfolio of lithium projects/alliances is ongoing, 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 recycling, extraction and processing.

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