



ASX ANNOUNCEMENT
(ASX: **NVX**)

2 September 2019

NOVONIX PATENT FOR BATTERY ELECTROLYTE ANALYSIS GRANTED

HIGHLIGHTS

- **Novonix is pleased to announce the grant of US patent for a method for non-destructive evaluation of the liquid electrolyte in rechargeable Lithium-ion batteries (No. 10, 386,423) to its wholly owned subsidiary, Novonix Battery Testing Services Inc.**
- **The technology underlying this patent was developed at Dalhousie University and the rights to commercialization are assigned exclusively to Novonix under previously announced broad research agreement.**
- **Novonix has commercialised the Li-DTA Differential Thermal Analysis system and is marketing this product to customers around the world.**
- **Using the Li-DTA, researchers and battery developers can understand changes in the amount and composition of the liquid electrolyte in the battery during cycling.**
- **The new patented technology and related commercialization strategy is further evidence of the suite of cutting-edge technologies that is establishing Novonix as a leader in battery and materials development.**

Novonix Limited (“Novonix” (**ASX:NVX**)) is pleased to announce that US patent 10,386,423, “Thermal feature analysis of electrochemical devices” was recently granted by the United States Patent and Trademark Office.

The technology underlying the patent was developed by Prof. J. Dahn and R. Day at Dalhousie University. The exclusive rights to the patent have been assigned to **Novonix**. **Novonix** has developed a commercial product (the Novonix Li-ion DTA) that utilizes the technology disclosed in the patent to help battery researchers around the world better understand electrolyte degradation in their batteries. **Novonix’s** Li-DTA system is used extensively in customer consulting projects Novonix has underway and is also available for sale to the battery industry.

The Li-DTA system cools down a battery of interest until all the liquid electrolyte in the battery freezes and then, in a controlled manner, heats the battery back up again and detects signals that result from melting phase transitions in the electrolyte. The magnitudes of these signals correlate quantitatively to the amount of electrolyte in the battery and the temperatures at which they occur provide information on the composition of the electrolyte. As the technique is non-destructive, the battery can be measured repeatedly through multiple charge-discharge cycles. The resultant information provides critical information on the reactions that the electrolyte undergoes that can ultimately lead to battery failure and serves as the only non-destructive manner to obtain this information about ongoing battery performance.

NOVONIX



Photo: NOVONIX's Li-DTA Electrolyte Analysis System



Novonix Battery Testing Services Inc. was spun out of Professor Jeff Dahn's lab at Dalhousie in 2013. At that time, Professor Dahn and his team, including Novonix COO Dr Chris Burns and CTO Dr David Stevens, worked together to develop HPC technology to accelerate battery research cycle time to weeks from years. This HPC technology is now **Novonix's** flagship product being embraced worldwide by most major battery makers, auto-makers, electronics companies and cordless equipment manufactures. In addition, Dr. Stevens was actively involved in the development of the Li-ion DTA technique whilst employed at Dalhousie.

Novonix Limited Managing Director, Mr Philip St Baker said that the broad research collaboration with Dalhousie University in Canada, a leading research institution in the battery sector, was delivering commercial outcomes relatively soon after its commencement.

"This new patented Differential Thermal Analysis system, and our commercialization strategy, demonstrates the growing suite of cutting-edge technologies makes Novonix a leader in battery and materials development," he said.

"Major battery manufacturers and consumer electronics companies have already entered into commercial research arrangements with Novonix BTS to benefit from the new DTA system and evaluate their specific batteries."

"As well as the immediate commercial benefits, these technologies are helping Novonix maintain and deepen valuable relationships with its international customer base," Mr St Baker said.

FOR FURTHER INFORMATION

Chris Burns
Chief Operating Officer
Phone: +1 902 449 9121
Email: chris@novonixgroup.com

Philip St Baker
Managing Director
Phone: +61 438 173 330
Email: phil@novonixgroup.com

ABOUT NOVONIX

(ASX: **NVX**) is an integrated developer and supplier of high-performance materials, equipment and services for the global lithium-ion battery industry with operations in the USA and Canada and sales in 15 countries. NOVONIX's mission is to accelerate the adoption of batteries for a cleaner energy future.