

FOR RELEASE: 25 AUGUST 2022

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Extra Fast Charging Battery Results Only 3% Loss of Charge Retention After ~2600 Cycles

- Positive results continue in Extra Fast Charging (EFC) battery program using 7Ah (Amp hour) commercial graded cells with 20 minute-charge and 20 minute-discharge
- Results show only 3% loss of the initial cell capacity after approximately 2600 cycles
- C4V's patented BMLMP Technology is used in the EFC program
- EFC and FC expected to have a major impact on the electrification of the transportation industry

Magnis Energy Technologies Ltd (“Magnis”, or the “Company”) (ASX: MNS; OTCQX: MNSEF; FSE: U1P) is very pleased to announce further significant results from the EFC battery program, using 7Ah commercial graded cells.

These cells are developed using BMLMP (bio-mineralized lithium mixed metal phosphate) technology which delivers superior battery life with fast charge capabilities while containing no nickel or conflict metals such as cobalt and is patented by Charge CCCV (“C4V”). Magnis has a 9.65% stake in C4V.

Extra Fast Charging Results

The EFC program which commenced in early 2022 using 7Ah commercial graded cells with a 20 minute-charge and 20 minute-discharge.¹ The results of the initial program led to the C4V introducing a unique step in the process without changing any cell components or the cell design. The unique step was implemented to enable enhancement of the battery cycle life.

¹ Refer to ASX announcement dated 31 March 2022.

In May 2022 following the introduction of the unique step, a new EFC program commenced using 7Ah commercial graded cells with a 20 minute-charge and 20 minute-discharge as the continuation of the EFC program. The tests were performed at 90% Depth of Discharge (DoD) which equates to 90% of the maximum energy being infused and withdrawn during charge and discharge cycles. After 1000 cycles, cells also went under impedance measurement every 100th cycle. These optimised commercial cells exhibited minimal energy density loss even at higher charge-discharge retaining 95% energy density of a regular cell run at lower rates.

To date, the EFC results received have been very exciting **with only a 3% initial capacity loss after more than 2600 cycles**. The plan is to take this program to over 3000 cycles and then run new programs at higher charging currents to achieve a 10-minute charge and then onto a 6-minute charge. The new programs are scheduled to start in September 2022 with initial results expected in October 2022.

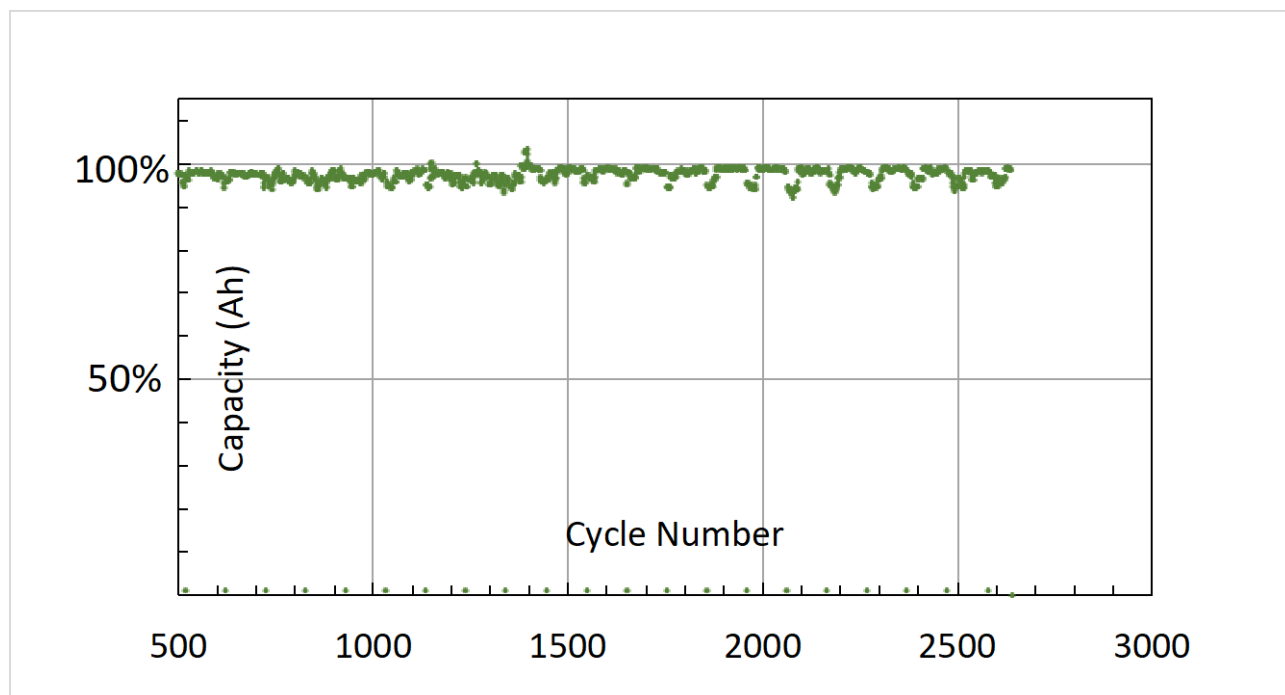


Figure 1: EFC 7Ah cell cycling data with 20 minute-charge and 20 minute-discharge. Cells were also measured for the impedance every 100th cycle at slower rate to study the internal resistance developing as a function of Charge-discharge

These cells were manufactured with C4V's standard scalable processes using materials from highly qualified suppliers which it is planned will enable the scale-up of the technology e. Such a high-power density, non-LFP cell **without any cobalt or nickel** makes C4V's technology a leader in the marketplace.

Significance of Results

Industries that require EFC include the transportation industry as they are constantly on the road and the EFC results announced today could be significant for these industries. The real importance comes from the number of cycles coupled with the charging times, enabling faster turnaround times for customers and greater productivity and efficiency.

Traditionally, batteries used in the EV industry currently have up to 80% retention after approximately 1,000 cycles using lower charging rates. When constant fast charging rates are applied the battery life decreases dramatically. **Today's EFC results show less than 3% capacity loss after 2600+ cycles using a 20 minute-charge and 20 minute discharge.**

C4V President Dr Shailesh Upreti commented: "Our EFC results coupled with data received from a market-leading OEM recently have been very exciting. Recent data shared by the OEM showed less than 1.7% capacity loss after 500 cycles under high power performance cycles which validates a robust design and performance delivery commitment from C4V."

"These results feed a great motivation back in our team to think and deliver beyond boundaries. We continue to make progress to take this program towards next phase of system level demonstration."

Magnis Chairman Frank Poullas commented: "Today's game changing results are very exciting for everyone involved. With the iM3NY Lithium-ion Battery Plant being in commercial production, we have a platform to produce batteries using new technologies once they have been commercialised."

About Magnis

Magnis Energy Technologies Ltd (ASX: MNS; OTCQX: MNSEF; FSE: U1P) is a vertically integrated lithium-ion battery technology and materials company with strategic assets, investments and partnerships in the electrification supply chain. The company's US based subsidiary Imperium3 New York, Inc ("iM3NY") operates a Gigawatt scale Lithium-ion battery manufacturing project in Endicott, New York. Magnis along with its joint venture and technology partner Charge CCCV LLC ("C4V") are the major shareholders in iM3NY which plans to commercialise C4V's patented technology to produce green credentialed lithium-ion battery cells. Magnis also has a minority stake in C4V and has exclusively licensed their anode processing technology with an aim to produce high performance anode materials utilising ultra-high purity natural flake graphite from Magnis' Nachu Graphite Project in Tanzania. The company's vision is to enable, support and accelerate the green energy transition critical for the adoption of Electric Mobility and Renewable Energy Storage.

FOR FURTHER INFORMATION

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