

FOR RELEASE: 13 OCTOBER 2022

ASX:
MNS

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U1P

Lithium-Ion Battery Anode Active Material Manufacturing Plant

- Plans to establish a downstream anode active material (AAM) processing plant with a number of locations in the US being investigated
- Plans to become a superior anode material supplier to meet the booming demand from the global Lithium-ion battery market
- Strong alignment with Magnis' vision of vertical integration of strategic assets in Lithium-ion battery supply chain
- Secure supply of high-grade flake graphite feedstock from Magnis' Nachu Graphite project in Tanzania
- Innovative and sustainable graphite anode processing technology eliminating harsh chemical and thermal purification
- Over 6 years of Pilot Plant testing in New York shows significant low-energy, low-cost downstream operations producing high performing materials
- Advanced discussions with several potential offtake partners to produce and supply AAM

Magnis Energy Technologies Ltd ("**Magnis**", or the "**Company**") (ASX: MNS; OTCQX: MNSEF; FSE: U1P) is excited to announce its plans to establish a Lithium-ion battery Anode Active Material (AAM) manufacturing plant utilising high quality and high purity natural graphite feedstock from its wholly owned Nachu graphite project in Tanzania.

This downstream AAM production facility will deliver a secured supply of one of the most sustainable, cost-competitive, high-quality, and high-performance Coated Spherical Graphite (CSPG) anode products in the marketplace for the ever-growing US and European Lithium-ion battery market. The proposed AAM processing facility will strengthen Magnis' vision of vertically integrating its strategic assets across the lithium-ion battery value chain, as well as meeting the growing supply deficit of critical materials for the broader Lithium-ion battery market. Several locations within the United States are currently being investigated.

Currently, Magnis is in advanced discussions with several potential offtake partners to produce and supply AAM. Magnis has plans for the phased production of AAM, commencing with the operations of a demonstration plant followed by setting up a large-scale CSPG AAM

production facility in the US in the next 3 to 5 years. The demonstration plant aims to supply the AAM for the qualification process with the OEMs and Lithium battery cell manufacturers.

Nachu Flake Graphite

Magnis' recent successful completion of the bankable feasibility study (BFS) update confirmed the viability of the Nachu Graphite Project in Tanzania to produce and supply high-purity graphite anode feedstock at a commercial scale for the rapidly growing Lithium-ion battery market.¹

Magnis has continuously demonstrated the production of a high performance, commercial Lithium-ion battery grade (>99.95%) CSPG-based AAM from its Nachu graphite feedstock in Tanzania with the help of its strategic technology partner, C4V.

Anode Technology

C4V and Magnis have developed a proprietary graphite anode processing technology at its pilot facility located at the Binghamton University in New York operating over the last six years using lab scale equipment.

C4V's innovative and scalable processing technology which utilizes a purely mechanical downstream processing approach has eliminated the need of any harsh chemical and thermal purification producing significantly low-energy and low-carbon footprint anode product compared to traditionally produced products.

At the pilot facility, product has been constantly produced with higher yield (~70%) compared to the conventional graphite anode plant yield (~40-50%). Magnis' CSPG AAM produced at C4V's pilot facility has been validated in commercial graded cells by C4V and Magnis' subsidiary Imperium 3 New York (iM3NY), which recently commenced the commercial production of Lithium-ion battery cells at its Gigafactory facility in New York.²

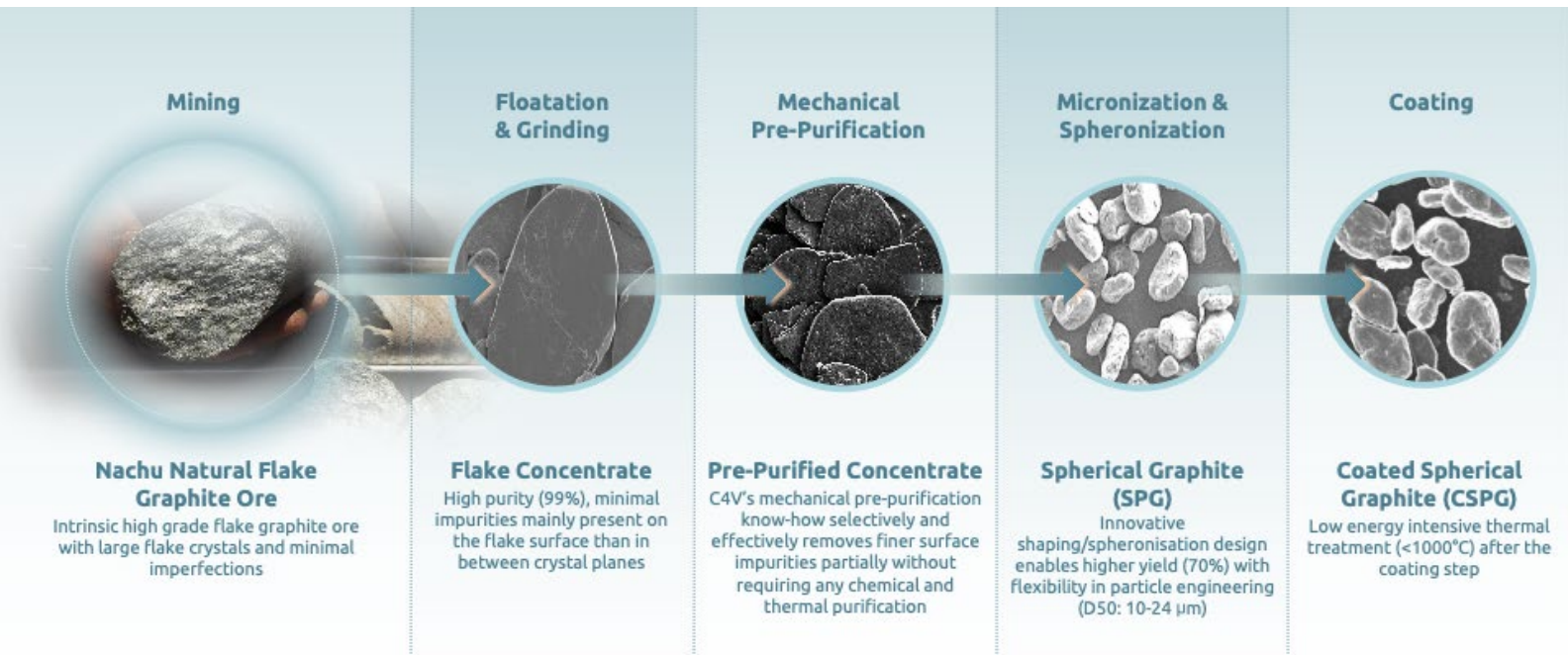
Magnis has an exclusive licensing agreement with C4V to use and commercialize the AAM processing technology globally.

Demonstration Plant

The demonstration plant will validate and demonstrate the scalability of Magnis' AAM processing technology at a commercial scale and will further facilitate the expansion to a large-scale production capacity.

¹ Refer to ASX announcement dated 27th September 2022

² Refer to ASX announcement dated 12th August 2022



Traditional Process

Collection & extraction of raw ore	Mining
Separation of flake from bulk	Flotation
Purification of flake graphite concentrate	Harsh
Reduction of particle size using mechanical milling	Micronization
Shaping of flake graphite to spheroids to improve packing density, Yields <40%	Spheronization
Protective coating on graphite particles to minimise degradation of anode and battery performance	Coating
Energy intensive (2000°-2400°C) thermal treatment to Battery anode ready material	Thermal Purification

Magnis Process

Mining	Excellent flake graphite with minimal imperfections
Flotation	Higher concentrate purity (99%) than competitors
Proprietary	Purely Mechanical and Green process, no harsh chemicals, energy
Micronization	Reduction of particle size using mechanical milling
Spheronization	High yields (70%), Conversion to customized shape and size for optimum electrode density
Coating	Battery anode ready, Product purity >99.95%, Enhanced battery performance (stability, lifespan)

No Chemical or Thermal Purification

- Ultra-high purity of our Nachu Graphite feedstock
- Selective mechanical purification process utilising IP from our technology partner C4V
- Low (<1000°C) thermal treatment to produce final product

High Performing Results

Recent electrochemical battery performance of Nachu AAM has been extensively tested, validated and qualified using commercial graded Lithium-ion battery cells. These commercial graded cells have had over 1000 cycles while retaining over 90% of its initial cell capacity which demonstrated an excellent lifespan of the Nachu CSPG AAM and its readiness for the next step of commercialisation.

KEY PROPERTIES	Property	Value
	BET Surface Area	~2-3.5m ² /g
	Tap Density	0.89-1.19g/cc
	Particle Size Distribution d (50)	10-24 μm
	Total Ash	<0.03%
	First Cycle Efficiency	94%
	First Cycle Capacity	354 mAh/g

Figure 1: Key specifications of Nachu CSPG anode product

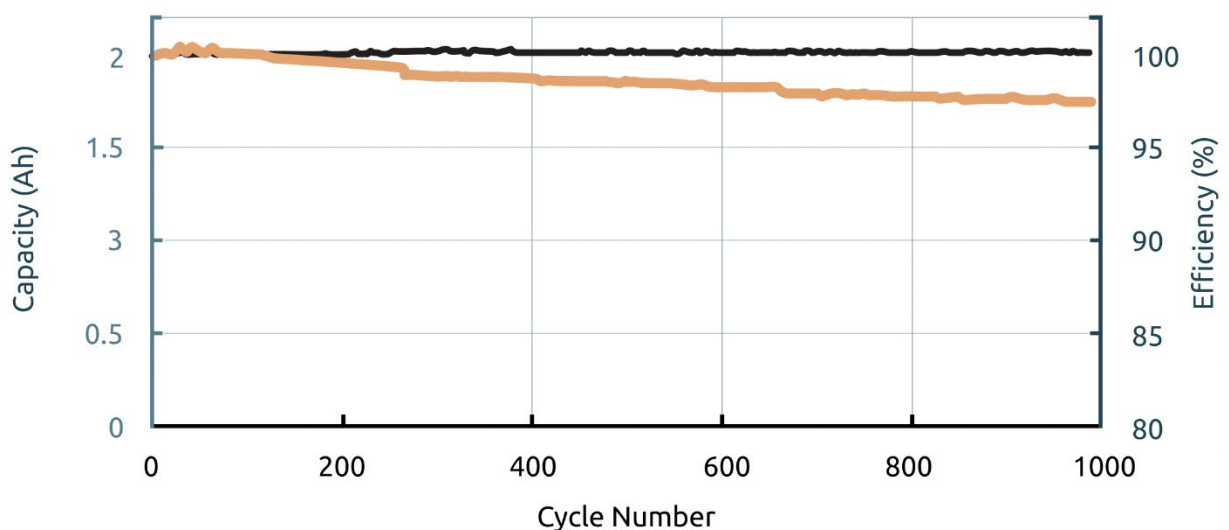


Figure 2: Initial capacity retention of AAM after 1,000 cycles

Magnis Chairman Frank Poullas commented: “After many years of developing a process based on our Nachu Graphite we are excited to announce our plans to produce AAM materials.”

“We are confident that the intrinsic high-purity Nachu graphite feedstock comprising of large crystal structure with minimal imperfections and C4V’s unique processing technology will produce and deliver a superior AAM product compared to the competitors in the marketplace.

“With the huge shortage of AAM in the marketplace right now, we look forward to producing sustainable, cost competitive and high quality anode materials.”

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 several aspects of 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. iM3NY 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 technology to produce high quality, high performance anode materials 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.

This announcement has been authorised for release by the Board of Magnis Energy Technologies Ltd (ACN 115 111 763).

FOR FURTHER INFORMATION

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