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SiNTL SILICON ANODE MATCHES CURRENT COMMERCIAL BENCHMARKS, ON PATH TO 600 mAh/g

Highlights

- First SiNTL™ development milestone achieved ahead of schedule: 500 mAh/g
- Performance aligns with current best-in-class commercial silicon anodes, establishing a platform for further gains beyond existing benchmarks
- Clear development pathway defined toward 600 mAh/g, 20% higher than current commercial benchmarks
- Global silicon-anode battery market forecast to grow from USD $536.5 million in 2025 to more than USD $20.8 billion by 2034

1414 Degrees Ltd (ASX: **14D**) ("**1414 Degrees**" or the "**Company**") is pleased to announce that its SiNTL silicon anode battery material has achieved its first significant technical performance milestone, months ahead of the commercialisation schedule.

The initial composite samples produced under the SiNTL program have achieved specific capacities of 500 mAh/g, meeting the first targeted performance threshold. This result confirms parity with current best-in-class commercial silicon-enhanced anode material alternatives and validates the underlying material design approach. The program is progressing ahead of schedule toward its indicative target of 600 mAh/g within 12 months.

A capacity of 600 mAh/g is around 20% higher than typical current commercial benchmarks for silicon-enhanced graphite anodes used in lithium-ion batteries. Achieving 600 mAh/g, while maintaining acceptable stability and manufacturability, would significantly enhance the energy contribution from the anode in standard lithium-ion cell designs. This performance range is commonly seen as a key threshold where silicon-enhanced anodes can provide notable improvements in cell-level energy density without requiring disruptive changes to existing manufacturing processes.

In parallel, anode testing is underway incorporating pristine graphitic carbon from the Company's SiPHyR™ process into the SiNTL synthesis process. This test program aims to validate the quality of SiPHyR carbon output for battery anode applications and may, over time, support additional downstream value opportunities for the SiPHyR hydrogen program including battery anode production and other applications requiring high-quality graphitic carbon.

The SiNTL commercialisation program is underpinned by a repeatable and technically validated development framework that directly links battery performance to material properties across multiple sample formulations. Combined with a low-temperature, scalable synthesis process compatible with existing anode manufacturing infrastructure, this approach supports a clear pathway to production-scale manufacturing without the need for fundamentally new operations.

1414 Degrees Chief Technology & Operations Officer, Dr Peter Yaron said:

"This milestone demonstrates that SiNTL is not just a research program; it is a commercial platform in development. As performance improves and scalability is validated, the strategic relevance of this technology to battery manufacturers and OEM supply chains becomes increasingly clear."

Professor Michael Wagner, SiNTL inventor said:

"The performance data confirms that the silicon composite architecture and synthesis approach are delivering the electrochemical characteristics required for next-generation anode materials. The ability to systematically link material structure to battery performance is what enables predictable scaling and ongoing improvement, which is critical for commercial deployment."

AUTHORISED BY:

Dr Kevin Moriarty, Executive Chairman on behalf of the Board of Directors

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ABOUT 1414 DEGREES LIMITED

1414 Degrees is a leader in industrial decarbonisation with its cutting-edge silicon-based solutions, enabling the alignment of energy supply with demand, fostering the widespread adoption of renewable energy. Our key technologies include:

SiBrick®: thermal energy storage technology safely and efficiently stores renewable electricity as latent heat, available for use on demand.

SiBox®: facilitates the transition to sustainable industrial processes, SiBox delivers consistent, high-temperature heat. It can be seamlessly retrofitted into heavy industry processes, offering a viable alternative to conventional energy sources.

SiPHyR™: methane pyrolysis reactor with integrated storage. SiPHyR will produce low-emission hydrogen and solid carbon using renewable energy sources.

SiNTL™: silicon nanotechnology that enhances conductivity and oxidation resistance in silicon anodes with the potential to deliver significant advances in lithium-ion battery performance.

1414 Degrees has showcased its capabilities through successful pilot projects that highlight the reliability and effectiveness of its solutions. SiBox has proven its ability to deliver high-temperature air or steam on demand from stored heat. The development of SiPHyR underscores our commitment to innovation and sustainability.

In 2019 the Company made the strategic purchase of the Aurora Energy Project (AEP) located near Port Augusta, South Australia. The project is a long-term renewable energy initiative to deliver reliable electricity to the region and National Electricity Market. The AEP has approval for 14D to pilot and demonstrate a large commercial scale version of the SiBox technology.

For more information, please visit www.1414degrees.com.au

Forward-looking statements

This announcement includes forward-looking statements which may be identified by words such as 'anticipates', 'believes', 'expects', 'intends', 'may', 'will', 'could', or 'should' and other similar words that involve risks and uncertainties. These forward-looking statements are based on the 1414 Degrees' expectations and beliefs concerning future events as at the date of this announcement. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of 1414 Degrees, which could cause actual results to differ materially from such statements. 1414 Degrees makes no undertaking to update or revise the forward-looking statements made in this announcement to reflect any change in circumstances or events after the date of this announcement.