



24 August 2026

ASX:14D

14D SIGNS LOI FOR KOREAN SiNTL™ BATTERY MANUFACTURING PATHWAY

Key Highlights

- **14D TO JOINTLY DEVELOP SiNTL™ ELECTRODES & BATTERY CELLS:** 14D has signed a letter of intent (LOI) with JR Energy Solution (JRES), a South Korean battery electrode and cell manufacturer, to jointly develop electrodes and battery cells using 14D's SiNTL silicon anode material, with an initial focus on high-performance applications including defence, UAVs, space and robotics.
- **JRES IS SCALING FOR DEFENCE, DRONE & ROBOTICS BATTERIES:** JRES operates an established 79,200 m² battery manufacturing site in Eumseong and plans two additional 2 GWh-scale electrode factories. Its platform spans electrodes, cells and battery packs, with applications including EVs, robotics, drones and energy storage, and an expanding focus on defence and other specialised markets.
- **PATHWAY TO SCALED SiNTL CELL PRODUCTION:** The partnership creates a development pathway for SiNTL from electrode manufacture and full-cell testing to scaled cell production in South Korea, without requiring 14D to build its own cell manufacturing facilities.
- **CONNECTING SiNTL TO HIGH-VALUE END MARKETS:** 14D is establishing a foothold for SiNTL in Asia's battery manufacturing ecosystem to address rising global demand for higher-capacity batteries for use in defence, aerospace, satellites, robotics and other demanding applications.
- **TARGETING A \$25.8 BILLION GLOBAL MARKET:** The global silicon-anode battery market is forecast to grow from ~US\$0.4 billion in 2025 to US\$25.8 billion by 2035. The JRES collaboration provides a pathway to convert SiNTL material into manufactured battery cells, supporting potential early revenue opportunities.
- **DEFENCE DRONE, UAV & SATELLITE BATTERY TESTING AGREEMENTS IN PLACE:** SiNTL development and scale-up is continuing at George Washington University, while agreements are in place with Ukrainian military drone manufacturer, *Energia-2000*¹, and with *Orbit Boyand Space Industries* for space and satellite applications². JRES could provide electrode and cell manufacturing capability to support the development of application-ready batteries for those programs.

1414 Degrees Ltd (ASX: 14D) ("1414 Degrees" or the "Company"), has signed a letter of intent with JR Energy Solution, a South Korean battery electrode and cell manufacturer, to jointly develop electrodes and battery cells incorporating 14D's SiNTL silicon anode material, which is designed to increase lithium-ion battery energy density.

JRES operates a specialised battery electrode foundry in South Korea, manufacturing electrodes and cells to customer specifications for a range of international battery developers.

¹ ASX announcement 11 June 2026

² ASX announcement 17 June 2026

Under the LOI, the parties intend to evaluate SiNTL material samples, develop and optimise electrode formulations, manufacture electrodes and cells, and undertake half-cell and full-cell performance testing. Testing is expected to assess key battery performance characteristics including capacity, energy density, cycle life and rate capability.

This will establish the technical base for a definitive manufacturing agreement covering scale-up and production of SiNTL-based battery cells at JRES's facilities. The collaboration gives 1414 Degrees access to third-party electrode and cell development capability, while providing a potential route to scaled battery cell production.

The JRES collaboration expands 1414 Degrees' manufacturing options as SiNTL progresses toward downstream application testing and commercialisation. Development and scale-up work is continuing at George Washington University, while agreements are in place with Energia-2000 for UAV applications and with Orbit Boy and Space Industries for space and satellite applications. JRES could provide electrode and cell manufacturing capability to support the development of application-ready batteries for those programs.



Figure 1 Duke Oh, CEO of JR Energy Solution and Peter Yaron, CTOO of 1414 Degrees sign Letter of Intent for collaboration at JRES foundry in Eumseong, South Korea

Building a diversified battery manufacturing pathway

Battery supply-chain concentration has become an increasingly important consideration for defence, aerospace and other strategically sensitive markets.

According to the International Energy Agency, the global lithium-ion battery market exceeded US\$150 billion in 2025, with China manufacturing well over 80% of all batteries globally. The IEA identifies Korea and Japan as the only other countries with notable midstream battery industries, highlighting the

limited number of established alternatives available to customers seeking greater supply-chain diversification.³

JRES has been expanding its battery foundry model into markets including defence and robotics⁴, where customers can require customised products rather than the high-volume, standardised production typical of electric vehicle battery manufacturing.



Figure 2 JR Energy Solution battery foundry in Eumseong, South Korea

The market for silicon anode materials is forecast to expand significantly as battery manufacturers seek higher energy density. Fact.MR projects the silicon anode battery market to grow from approximately US\$0.4 billion in 2025 to US\$25.8 billion by 2035, representing a compound annual growth rate of 51.7%.⁵

Alongside the development program, 1414 Degrees and JRES will consider the commercial and manufacturing terms for a definitive agreement that could support larger-scale production as SiNTL progresses through qualification and customer adoption.

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

"This agreement with JRES adds an important manufacturing pathway as we progress SiNTL toward real-world applications and commercialisation."

"We already have pathways into UAV, defence and space markets. Access to versatile electrode and cell manufacturing capability in South Korea gives us another option to support those programs and scale production as demand develops."

Duke Oh, CEO of JR Energy Solution, said:

"We're seeing growing demand from customers seeking high-performance battery solutions and diversified manufacturing supply chains, particularly in defence, robotics and other specialised applications."

"We look forward to evaluating 1414 Degrees' SiNTL technology through our electrode and cell development process and exploring the potential for future manufacturing cooperation."

³ International Energy Agency (IEA), [Global battery markets are growing strongly – and so are the supply risks](#)

⁴ [JR Energy Solution Expands Battery Foundry Business Into Defense and Robotics < Battery > 기사본문 - The Elec Inc.](#)

⁵ Fact.MR, Silicon Anode Battery Market Global Market Analysis Report – 2035

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ABOUT JR ENERGY SOLUTIONS

JR Energy Solution is a South Korean battery electrode foundry specialising in customised cathode and anode manufacturing for battery developers and manufacturers. Founded in 2022, JRES operates a manufacturing facility in Eumseong, South Korea, with current annual production capacity of approximately 500 MWh. The company has announced plans to expand capacity as it grows its foundry business into markets including defence and robotics.

ABOUT 1414 DEGREES LIMITED

1414 Degrees (ASX:14D) is advancing an integrated clean-energy and industrial decarbonisation platform spanning grid-scale storage, industrial heat, hydrogen and advanced battery materials.

1414 Degrees' technologies are unified by a single materials platform — leveraging silicon to store, convert and enhance energy across multiple sectors.

Core Platforms:

SiNTL™: A silicon-enhanced anode material designed to increase lithium-ion battery energy density while remaining compatible with existing manufacturing processes.

SiBrick®: Silicon-based thermal energy storage media forming the foundation of the Company's long-duration energy storage systems.

SiBox® (Industrial Heat-as-a-Service): Long duration energy storage technology that converts low-cost renewable electricity into dispatchable high-temperature heat, supporting industrial decarbonisation across energy-intensive sectors.

SiPhyR®: A silicon-based methane pyrolysis reactor integrating thermal storage to produce low-emissions hydrogen and solid carbon using renewable energy sources.

The Company's strategy combines near-term infrastructure revenue with scalable technology commercialisation, underpinned by deep expertise in energy-dense silicon systems and materials engineering. 1414 Degrees owns the Aurora Energy Precinct in South Australia, a development-ready energy and industrial site spanning 16km² within the Upper Spencer Gulf Renewable Energy Zone. Aurora is designed for firm renewable electricity and co-located high-demand users, with grid access, development approvals and proximity to fibre infrastructure supporting global connectivity. The site is strategically positioned to support data centre operators and other energy-intensive industries requiring reliable, low-emissions power at scale. The Stage 1 140 MW / 280 MWh Battery Energy Storage System (BESS) represents a near-term revenue opportunity, with expansion potential aligned to customer demand.

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.