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13 May 2026 ASX:14D

14D AEROSPACE & DEFENCE DIVISION ESTABLISHED TO TARGET GLOBAL DRONE & UAV MARKET

14D's SiNTL™ battery technology aims to give military drones and UAVs a major competitive advantage by enabling longer range, faster charging, and heavier payloads

KEY HIGHLIGHTS

- Following positive SiNTL™ performance results from George Washington University, which established a technical basis to commercialise the battery technology, 1414 Degrees has set up 14D Aerospace & Defence, a new business division focused on identifying and developing commercial opportunities in the drone, UAV, and aerospace market for commercial, government, and military applications
- SiNTL, 14D's next-generation battery anode, offers significant benefits over traditional graphite-based Li-ion batteries and competing silicon batteries, including **superior battery life** enabling longer range and/or larger payload; **faster charging** for extended usage uptime; maintained **cycle stability** for longer battery lifespan
- SiNTL silicon nanoparticle anode technology has demonstrated 530 mAh/g specific capacity, approximately **50% higher than conventional graphite** anodes, making it well suited to the energy density demands of drone and UAV applications. Development is continuing toward 600 mAh/g and beyond
- The United States has recently formalised policy to treat small drones as expendable assets, equivalent to ammunition, significantly expanding planned drone deployment at scale. Battery energy density is a critical capability requirement for this class of platform
- The Australian Government announced $5 billion in new defence drone spending in April 2026, drawing on lessons from conflicts in Ukraine and the Middle East. Australian sovereign industrial capability in drone technology is a stated priority
- SiNTL is being developed as a drop-in replacement for graphite anodes in existing lithium-ion battery production lines, reducing adoption barriers for manufacturers and accelerating the path to commercialisation
- Peter Yaron, Chief Technology and Operations Officer, has been appointed to lead the division. Peter holds an active Australian NV1 security clearance and brings direct experience in silicon nanoparticle technology development and manufacturing scale-up at Fortune 500 level
- The Company has commenced discussions with drone and related industry participants to explore commercial potential, and will update the market as those discussions progress
- The global commercial and military drone market is experiencing rapid growth amidst ongoing wars, geopolitical tension, rising focus on defence, as well as increasing uptake in the commercial logistics/delivery sector, and is forecast to reach circa US$160 billion by 2030[1]

Pictured above: Military UAV (left), and reconnaissance drone (right)

[1] https://ts2.tech/en/global-drone-market-outlook-2025-2030

1414 Degrees Ltd (ASX: 14D) ("1414 Degrees" the "Company") is pleased to announce the Board has established 14D Aerospace & Defence, a new business division focused on commercialising the Company's SiNTL™ silicon nanoparticle anode technology within the drone and UAV market as well as pursuing broader aerospace and defence opportunities.

The decision reflects the Board's view that the global drone, UAV, and defence technology sector represents a near-term commercial pathway for the Company's technology capabilities, and that a dedicated division structure is the appropriate vehicle to pursue it.

The Australian Government's $5 billion commitment to drone capability, announced in April 2026, reflects the scale of domestic investment now flowing into this sector. The Company will provide further detail on the division's strategic direction as it develops.

Leadership

Peter Yaron, Chief Technology and Operations Officer of 1414 Degrees, has been appointed to head the 14D Aerospace & Defence division.

Peter holds an active Australian NV1 security clearance and brings direct experience in silicon nanoparticle technology development and manufacturing scale-up, having previously led the commercialisation of silicon nanoparticle materials at Fortune 500 level. His background spans advanced materials engineering, defence industry partnerships with BAE Systems, Saab, and Thales, and the full commercialisation pathway from laboratory prototype to ASX-listed production company. He holds Australian, United States, and United Kingdom citizenship.

SiNTL™ Applications for Drones and UAVs

SiNTL is 1414 Degrees' silicon nanoparticle battery anode technology, developed under an exclusive global licence with George Washington University. Laboratory testing has demonstrated performance advantages over conventional graphite-based lithium-ion anodes, including significantly higher energy density and faster charge capability. An aluminium coating process addresses the volume-expansion degradation challenge common to silicon anode materials and renders the nanoparticles air- and water-stable, an important safety and handling attribute for commercial and defence-grade battery production.

The drone and UAV market is a compelling near-term entry point for SiNTL commercialisation for a specific reason: commercial and military drones typically operate within cycle life requirements that are well matched to the current development stage of silicon anode technology. The US Government has recently formalised this dynamic through policy treating small drones as expendable assets, equivalent to ammunition.[2] Platforms designed for limited deployment cycles need maximum energy density, not longevity. SiNTL's current performance envelope, outstanding energy density with maturing cycle life, is suited to this application now, not at some future point.

At the domestic level, the Australian Government announced $5 billion in new defence drone spending in April 2026, citing lessons from conflicts in Ukraine and the Middle East[3]. The commitment reflects a deliberate shift toward unmanned systems as a core component of Australian defence capability, and a stated priority for sovereign industrial development in drone technology. For an Australian company with a battery materials technology directly relevant to drone performance, the timing is significant.

The performance characteristics demonstrated in laboratory testing are expected to deliver direct benefits for drone operators: longer flight times, greater payload capacity, or lighter battery packs for equivalent performance. Faster charging is expected to support higher fleet utilisation in commercial and military environments. These are the metrics that determine commercial competitiveness in delivery, agriculture, inspection, and defence applications, and the factors that determine mission capability in military ones.

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[2] Defense One, "Drones Are Now Bullets: How New Pentagon Policy May Accelerate Robot Warfare," defenseone.com

[3] ABC News, "$5 billion in new spending on drones as Defence learns lessons from Ukraine and Iran," Tom Lowrey, 14 April 2026, abc.net.au/news/2026-04-14/australian-defence-drone-spending-ukraine-iran-lessons/106560648

SiNTL has demonstrated 530 mAh/g specific capacity in test cells, approximately 50% higher than the theoretical maximum of conventional graphite anodes at around 370 mAh/g. Development is continuing toward 600 mAh/g and beyond.

SiNTL is being developed as a drop-in replacement for graphite anodes in existing lithium-ion battery production lines. Laboratory testing has demonstrated process compatibility with standard manufacturing equipment, reducing adoption barriers for battery cell manufacturers without capital-intensive retooling. The synthesis process is one-step, low-temperature, and avoids hazardous reagents, supporting a credible path to scalable, cost-competitive production.

The Company's ongoing collaboration with Professor Michael Wagner's team at George Washington University continues, with work directed in part toward drone and UAV application qualification, including cycle life testing under representative discharge profiles and OEM-ready sample production.

Pictured above: Agricultural drone (left), and mining / surveying drone (right)

Division Structure and Near-Term Activity

14D Aerospace & Defence will operate as a focused, commercially oriented business unit within the 1414 Degrees group structure to pursue opportunities across commercial and defence segments. Commercial applications include delivery logistics, precision agriculture, infrastructure inspection, and emergency services. Defence and military applications include intelligence, surveillance and reconnaissance, loitering munitions, autonomous strike, swarm platforms, border patrol, and in-field logistics.

The division will be responsible for:

- Identifying and engaging strategic partners within the global drone and UAV battery supply chain, including battery cell manufacturers, drone OEMs, systems integrators, and defence primes
- Pursuing qualification and adoption of SiNTL anode material with leading drone battery manufacturers across both the commercial and military segments
- Licensing and technology transfer opportunities with battery manufacturers seeking to integrate SiNTL into drone-optimised battery cells
- Pursuing grant funding, co-investment, and collaborative research with government agencies, defence innovation funds, and research institutions
- Exploring potential corporate, M&A, and collaborative opportunities

Dr Kevin Moriarty, Executive Chairman, commented

> *"The aerospace and defence technology market has specific, well-defined performance requirements that align closely with what SiNTL delivers today. Establishing a dedicated division gives us the structure and focus to pursue those opportunities properly. Peter Yaron's appointment to lead the division is a natural fit. His technical background and commercialisation experience are exactly what this mandate requires. We have commenced industry discussions and set a clear commercial direction. We will report progress as it develops."*

AUTHORISED BY:

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

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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.

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 firmed 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.

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.

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

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.