

There's a better battery on the horizon



Image: V-TOL Aerospace's Pegasus Solar Drone

Li-S Energy is a pioneering Australian ASX-listed company headquartered in Brisbane with a manufacturing facility in Geelong. We are at the forefront of developing next-generation lithium sulfur batteries, poised to revolutionise both civilian and military battery technology.

Li-S Energy is leading the way in developing next-generation battery technology with our cutting-edge, lightweight batteries. Designed, engineered, and manufactured in Australia, our patented lithium sulfur batteries set new benchmarks in energy density and safety.

Key Features:

- **World's Lightest Battery:** Our batteries have some of the highest energy densities available, significantly reducing the weight.
- **Enhanced Energy Density:** Offering twice the energy density of traditional lithium ion batteries, our lithium sulfur solutions deliver more energy at half the weight.
- **Increased Safety:** Our cells have passed US MIL-PRF-32383/4X nail penetration testing with no fire, explosion, leakage or overheating.
- **Greener Technology:** Free from heavy metals and easier to recycle than lithium ion batteries, our technology supports environmental sustainability.

Advantages:

- **Reduced Weight:** Lighter batteries improve mobility for dismounted operators.
- **Extended Range and Flight Duration:** Achieve up to twice the range and longer flight durations for unmanned systems, enhancing operational effectiveness.
- **Competitive Advantages:** Gain strategic benefits enhancing platform performance in the most demanding applications.

Applications:

- UAVs
- eAviation
- Soldier Systems
- Land & Marine Systems

Custom Solutions:

- **Tailored Batteries:** We provide customised solutions to meet specific energy needs.
- **Sovereign Capabilities:** Our end-to-end capabilities, from R&D to large-scale manufacturing, are fully integrated and locally based.

Experience the future of battery technology with the world's lightest and most advanced batteries, engineered and manufactured right here in Australia.

Key Applications



Land & Marine
Systems



eAviation



UAVs



Soldier Systems

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Why Li-S Energy's technologies are important

Electrification is central in progressing towards global carbon zero, and energy storage is a fundamental part of this transition.

The demand for batteries is expected to increase 10-fold by 2030¹ due to climate change driving the move to renewable energy and electric vehicles (EVs). The GWh demand from EVs alone is forecast to grow more than five times by 2025, and more than 50 times by 2040.

In electric aviation and uncrewed air systems (UAS), safe, light batteries with a high energy density are critical.

Lithium ion: already reaching its limits

To date, lithium ion battery technologies have been used to meet the increasing demand for electric vehicles and more broadly. Nearly 80% of lithium ion battery manufacturing occurs in China with Australia contributing an estimated 0.1% of global lithium ion battery manufacturing capacity².

Significant advancements in lithium ion battery technology are challenging to achieve. These batteries can't be made much smaller or lighter, and their fast charging times and cycle life are approaching their limits. To foster more efficient clean energy storage and drive broader adoption, a breakthrough in battery technology is needed.

Lithium sulfur batteries are superior to lithium ion in many ways. They are a light-weight, high energy density battery compared to lithium ion. This means they are ideal for a range of applications where weight and space are critical considerations, including drones, UAS, electric aviation and wearable batteries. Lithium sulfur batteries are also cleaner and greener with no nickel, cobalt or manganese reducing mining and disposal impacts.

Proudly Australian made

Li-S Energy conducts its research and development in Australia and is fully Australian-owned, operated, and headquartered. The company holds key patents that enhance battery cell performance and possesses crucial manufacturing IP for scaling up lithium sulfur and lithium metal battery production. Li-S Energy has significantly expanded its production capacity with Australia's largest pouch cell manufacturing facility, located in Geelong, Victoria.

Sovereign Domestic Supply

With its 2MWh production facility in Australia, Li-S Energy is able to provide a reliable domestic source of battery cells and packs for critical applications. Recently, the company received an Industry Growth Program grant to establish Australia's first lithium foil production line. This advancement is crucial for producing anodes for both lithium-sulfur and lithium metal batteries, boosting Li-S Energy's ability to ensure a secure domestic supply and lessen dependence on international materials.



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1. Electric Vehicle Outlook 2020; Bloomberg NEF (Bloomberg Finance L.P.)
2. S&P Global Market Intelligence, data from 2021

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