



# Aerospace embedded energy storage project

Could GE Aerospace make hybrid electric commercial flight possible?

"Together with NASA, GE Aerospace is doing critical research and development that could help make hybrid electric commercial flight possible," said Arjan Hegeman, general manager of future of flight technologies at GE Aerospace.

What is GE Aerospace's MW-class electric propulsion system?

In 2022, GE Aerospace completed the world's first test of a MW-class and multi-kilovolt (kV) hybrid electric propulsion system in altitude conditions up to 45,000 feet that simulate single-aisle commercial flight at NASA's Electric Aircraft Testbed.

What does GE Aerospace do?

With a global team of 52,000 employees building on more than a century of innovation and learning, GE Aerospace is committed to inventing the future of flight, lifting people up, and bringing them home safely. Learn more about how GE Aerospace and its partners are defining flight for today, tomorrow and the future at

What is GE Aerospace's RISE program?

It's one of several efforts GE Aerospace has underway to mature technologies for more electric aircraft engines and is being advanced as part of the CFM International Revolutionary Innovation for Sustainable Engines (RISE)\* program.

What is GE Aerospace doing with Hytec?

NASA recently awarded GE Aerospace a contract for Phase 2 of the HyTEC project to continue developing technologies for an aircraft engine core demonstrator test later this decade. Phase 2 builds on work completed in Phase 1 of HyTEC for high-pressure compressor and high-pressure turbine advanced aerodynamics, as well as the combustor.

title = {Multifunctional energy storage composite structures with embedded lithium-ion batteries}, author = {Ladpli, Purim and Nardari, Raphael and Kopsaftopoulos, Fotis ...

The Japan Aerospace Exploration Agency's ground station, MDSS, has been equipped with a sodium-sulfur (NAS) battery-based energy ...

Multifunctionalization of fiber-reinforced composites, especially by adding energy storage capabilities, is a promising approach to realize lightweight structural energy storages for future ...

Australia is home to the world's first "big" battery: the 100 MW Hornsdale Power Reserve, constructed in 2017. Since then, investment in grid-scale battery ...



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Why Current Energy Systems Can't Keep Up with Modern Aerospace Demands Ever wondered how spacecraft maintain power during lunar nights or why electric aircraft prototypes still can't ...

Whether 3D-printed into a high-performance alloy for aerospace components or embedded in the 5G/6G semiconductors that power the world's phones and mobile communications ...

The aerospace energy storage market was valued at USD 5.2 billion in 2023 and is estimated to reach USD 9.8 billion by 2030, with a CAGR of 9.2% during the operation period.

In this review, the key designs and strategies to reconcile the trade-off between mechanical properties and energy storage performances of ...

Merging energy storage with structural integrity in aerospace also addresses environmental sustainability. Enhanced fuel efficiency and reduced emissions from electric or ...

Introduction to Energy Storage in Aerospace The evolution of aerospace technology has always required innovative solutions to power advanced systems. Today, as climate change concerns ...

The world is rapidly adopting renewable energy alternatives at a remarkable rate to address the ever-increasing environmental crisis of CO2 emissions....

This review looks at the state-of-the-art energy storage technologies that apply to the aerospace industry, with a focus on batteries, supercapacitors, and fuel cells.

Addressing energy storage limitations and achieving low thrust-to-weight ratios are paramount for innovation in the aerospace and automotive industries. A promising avenue ...

Under the agreement, BAE Systems will create, test, and deliver energy storage packs with a capacity of 200 kilowatt-hours for electric aircraft ...

The underlying idea of this approach is to significantly improve the system level specific energy by adding energy storing capabilities to structural--then multifunctional--components.

BAE Systems announced on January 8, 2025 that it has signed an agreement with Airbus to provide the energy storage system for Airbus' microhybridization demonstration ...

As the photovoltaic (PV) industry continues to evolve, advancements in Aerospace embedded energy storage power station have become critical to optimizing the utilization of renewable ...



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Several key NASA applications require very high specific energy ( $>500$  Wh/kg) with enhanced safety, while commercial HEV-driven market requires low cost, long cycle life, with specific ...

18 #0183; The move reflects Japan's growing focus on securing critical minerals such as rutile and graphite, both essential for industries ranging from aerospace and energy storage to ...

Lockheed Martin possesses advanced aircraft skin technology that is grown organically, embedding sensors for detection and energy storage directly into the material, eliminating ...

GAIA Converter has unveiled the GRD-50A-M series, a new line of scalable 500 W integrated power supplies tailored for high-reliability sectors, with a particular focus on ...

The future of aerospace lies in the successful combination of energy storage and structural integrity. The goal is to create lighter, more efficient, and safer aircraft that meet ...

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