

Kite Magnetics Improves Electric Vehicle Range, Reduces Energy Loss by 98%

MELBOURNE, AUSTRALIA, October 20, 2025 /EINPresswire.com/ -- [Kite Magnetics](#), an advanced materials engineering and manufacturing company, begins production of a drop-in replacement part for electric vehicles that makes them up to 25% more efficient, 50% lighter, and reduces energy losses by up to 97%.



The product is Aeroperm[®], a nanocrystalline stator core alloy, originally developed at Monash

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*Dr. Richard Parsons, CEO of
Kite Magnetics*

University in Melbourne, that delivers unparalleled efficiency in electric motors and generators. Designed for weight-sensitive and energy-intensive applications, Aeroperm extends the range and payload capacity of electric vehicles which significantly reduces the total cost of ownership while enhancing system performance. Kite's nanocrystalline stator cores are the world's first material of its type to allow direct replacement of conventional laminated silicon-steel cores without redesign and with no loss of performance

As EV adoption in the United States rapidly grows, recent

annual sales of new light-duty plug-in vehicles have surpassed 1 million units, accounting for about 10 percent of the U.S. market. Even small gains in motor system efficiency directly lead to significant range increases, smaller battery sizes or charging needs, and reduced costs.

Moreover, efficient motors are crucial for industrial decarbonization, as motor-driven systems account for nearly half of global electricity use.

Dr. Richard Parsons, CEO of Kite Magnetics says, "By increasing range and reducing mass, we're not just making electric vehicles drive further we're making them cheaper and more sustainable, accelerating adoption. With electric motors consuming half of the world's electricity, we aim to use our technology to reduce global electricity demand by more than 2%."

EVs use strong rare earth magnets, primarily neodymium (NdFeB), to create magnetic fields that

convert electrical energy into rotational motion, which drives the wheels. NdFeB magnets are brittle, corrode easily, and require a protective coating – and they're expensive. Aeroperm's nanocrystalline properties allow motor designers to reduce reliance on heavy rare-earth magnet structures, and in many cases use smaller magnets or alternative designs, easing cost and supply-chain pressure. Major auto manufacturers are already taking notice; the company is working with several auto brands to trial the drop-in replacement.

Kite Magnetix projects an increase in production of Aeroperm magnetic material by 50,000 tons per year by 2029. To support the scale up in development and production, the company is establishing a state-of-the-art manufacturing facility in Melbourne. The expansion will also generate 140 jobs in material science and automation engineering and up to 550 indirect positions.

In addition to boosting local and global export markets and benefiting industries like automotive, transport, and mining, the increase in production of the company's cutting-edge technology will speed up development of highly efficient electric aircraft engines and help grow the zero-emissions aviation sector.

About Kite Magnetix

Kite Magnetix, founded in 2022 and headquartered in Melbourne, Australia, is an advanced materials engineering and manufacturing company. Its innovative and patented technology, Aeroperm®, a nanocrystalline magnetic material developed at Monash University, delivers unparalleled efficiency in electric motors and generators. Designed for weight-sensitive and energy-intensive applications, Aeroperm® significantly reduces the total cost of ownership while enhancing system performance. As industry leaders, the Kite team is committed to transforming global energy efficiency through cutting-edge materials science.

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