

Highlights

PRISMA provides 4 hours of energy storage with a 20.5% improvement on energy usage, leading to significant carbon savings, and this is expected to increase with the commercial unit.

PRISMA units have been designed to be recycled or reused. For example, the PRISMA vessel could be converted to hold liquid nitrogen.

PRISMA holds 150 times the amount of energy compared to existing compressed air storage.

PRISMA has potentially one-third of the lifetime cost per kWh storage of existing batteries.



Innovatium Group

Innovatium Group, based in Glasgow, is a micro business developing technology solutions to meet the challenges of industrial decarbonisation, energy security and energy resilience. PRISMA is a liquid air battery that integrates energy storage and compressed air for industrial use. Currently 10 -12% of global industrial electricity is consumed by air compressors, PRISMA aims to reduce this by extracting the latent heat of the gaseous air and liquefying it - combining the chemical principles and energy characteristics of cryogenics and phase change materials and taking advantage of the much higher energy density available in liquid state. Widespread adoption could have highly significant energy-saving impacts in some of the most energy-intensive industries, which often have compressor systems.

Category description: Innovating Scotland

The Innovating Scotland Award recognises businesses that have developed an innovative product/service with an environmental benefit, or which has adopted an innovation(s) into their operations and obtained sustainability benefits as a result.

Innovatium Group worked with Aggregate Industries to install a PRISMA unit as part of a demonstration project. For Aggregate Industries, PRISMA will make a meaningful contribution to the company's 2030 Sustainability Strategy. The demonstration unit is providing 4 hours of energy storage, with associated 20.5% improvement in energy usage and significant carbon savings. Innovatium are operating a lease model on the equipment, with the sites expected to save more on energy bills than they pay for the equipment each month.

Innovatium have a commitment to knowledge sharing; research and development and PHD opportunities with universities.

Sustainability was the main reason this company was set up as the directors saw a business opportunity to improve the efficiency of energy intensive manufacturing processes by creating PRISMA. Thermodynamic knowledge and experience of turning inventions into patents have led to a new energy storage technology.

The Judges were very impressed with the potential of the technology for carbon savings and its potential to be scaled up.



Quote from the company:

“To be recognised by VIBES for winning the Innovating Scotland Award category is a great achievement which we are very proud of. We hope that by taking our place amongst many excellent companies working towards achieving Scotland’s Net Zero ambition, we will inspire more organisations to make a difference.”

Simon Branch, CEO.