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Route one

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resident electric-powered aircraft, and Gabriel Massey, Chief Executive at Pipistrel, sees tremendous opportunities for electric aviation in the cargo sector too.

The Nuuva combines attributes of both aircraft and helicopters, featuring unmanned hybrid VTOL capabilities that enable it to access locations incompatible with traditional aircraft because it does not require a runway and is compatible with helicopter landing pads.

"Moreover, its hybrid configuration allows it to operate at a significantly lower cost compared to conventional aircraft," says Massey.

"This not only enhances efficiency but also opens up new possibilities for delivering goods to remote or hard-to-reach areas, making electric aviation a game-changer for the cargo industry."

The Uncrewed Aerial System (UAS) is capable of carrying a 600 lb payload up to 300 nm and can operate from paved, unimproved and uneven surfaces, making it highly beneficial to smaller airfields with less developed infrastructure.

According to Pipistrel, the Nuuva performs fully automatic Beyond Visual Line of Sight (BVLOS) flights due to a highly reliable triple-redundant flight control system, remotely surveyed by the operator on the ground.

After lift-off, the aircraft transitions from vertical flight to forward flight on wing until completion of the landing phase.

Massey says: "The aircraft's connectivity through satellite-based systems allows the operator to be located anywhere in the world."

With an internal volume of over 100 cubic feet, the Nuuva is designed to hold up to three cargo pallets – and is simple to operate according to Massey.

He says: "The nose section of the fuselage swings open, leaving a large opening for standard US and European cargo pallet loading – which can be easily loaded on the ground from a forklift, by hand, delivery van or by utilising a ramp."

What's more, the aircraft reportedly features common communications, control and navigation architecture for easy integration into existing infrastructure.

GSE INNOVATION

As public concern for environmental consideration grows, the cargo markets will inevitably seek greener working processes, and this is already evident in ground services equipment (GSE).

Hong Kong-based Easyroll Technology has developed smart composite rollers (SCRs) for application in the cargo GSE market, with a unique patented anti-slip function.

Junly Hon, the company's Director, believes innovation offers a crucial solution for more eco-friendly products that significantly reduce carbon emissions.

According to Easyroll, an independent friction test report clearly showed an improved level of friction and associated ULD handling performance, particularly under wet weather conditions.

"Smart composite rollers enhance operational efficiency by resolving the skidding issues common for cargo loaders in wet conditions," says Hon, implying that SCRs provide higher friction in rainy weather than traditional rollers.

Hon suggests that the anti-slipping design of the SCR increases efficiency while reducing workforce demands, adding: "It also reduces the potential danger to workers that can occur when they need to push the cargo themselves and are prone to falls, for example."

In terms of more sustainable applications in GSE equipment, electric GSE, renewable energy and sustainable materials are the current industry focus.

"Our products can reduce carbon emissions by reducing the GSE weight to a large extent," says Hon.

As an example, about 86.3 tonnes of diesel is saved annually by replacing all the rollers at Hong Kong International Airport with composite rollers.

Other findings from Easyroll suggest a 20 to 40 per cent cost saving for composite rollers compared to those in aluminium. ■

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> Junly Hon, Director, Easyroll Technology

Anti-slip function: Easyroll Technology's smart composite rollers.