

UAV reliability and weight improvements delivered by Wire in Composite

New embedded wiring technology prototype increases reliability, durability and package space for unmanned aerial vehicles

A prototype UAV wiring system that reduces weight yet also delivers improvements in reliability and package space is to be unveiled at the DVD military show. Designed by wiring specialists BERU f1systems, the wire in composite (WiC) technology completely encloses the lightweight wiring in composite shielding it from damage and environmental impact.

Completely enclosing wiring looms in a bespoke composite sleeve protects assemblies against damage caused by vibration and harsh environmental conditions. The firm has already completed testing of the system to satisfy the relevant aerospace requirements of EURO CAE ED-14D, and to date it has succeeded with all tests including fluid immersion.

The prototype fuselage concept shows how the smaller sized WiC system with wires laid side by side increases internal payload space and protection from potential ballistic or accidental impact. WiC looms can be built to virtually any shape or form offering the ability to incorporate sharp bend radii without the risk of strain or chafing found in a conventional harness. Using a composite material also provides an increased EMC performance, a useful benefit that improves emissions performance.

BERU f1systems is already planning a "Gen II" to highlight how the technology can assist rapid deployment. "Our second generation will show how the technology provides a robust, easy and secure connection method for wings and associated circuitry," says programme leader David Dowdell. "Research has shown assembly and deployment must be quick and simple to undertake in the field."

The prototype is unveiled at stand C-2-4 at the DVD Show, a military event at Millbrook, UK.

About BERU f1systems

BERU f1systems offers advanced design and manufacturing facilities for vehicle wiring harness systems, tyre pressure monitoring, stress measurement and composites. Supplied to world championship winning cars in every major formula and every Formula 1 team, components from BERU f1systems are now available in military, road car, aerospace and nautical applications.

Photographs

Available from Nick Bailey email (see below)

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