

New Controp Scanning IR Camera Offers Much Bigger Pictures

Israeli electro-optics house Controp has developed and is about to market a scanning infrared camera that will enable UAVs and other airborne platforms to generate much bigger real time pictures of the battlefield than conventional EO/IR payloads can, according to Johnny Carni, the company's marketing and sales VP. Sized for medium range UAVs, it brings to them a capability formerly associated with much larger platforms such as Global Hawk, U-2 and fast jet reconnaissance aircraft equipped with infrared line scanners. UAVs will no longer have to look at the world through a 'drinking straw,' boosting their usefulness to commanders who need big, real-time pictures that provide context as well as detail for greater situational awareness.

Controp faced a number of challenges including the need to provide very accurate

positioning of the line of sight and very precise motion control. Together, these features make it easy for the ground station (not supplied by Controp) to stitch together strips of imagery accurately to avoid gaps and mismatches caused by the UAV's movement between sweeps of the scanner, and the so-called 'butterfly effect' that happens when the camera sweeps out to the horizon on either side of the aircraft creating a distorted pattern shaped like the wings of a butterfly, or a 'bow-tie' if you prefer. Eliminating these effects in real time was a serious challenge. Some of the expertise used to develop the system emerged from experience with other scanning electro-optical systems, one designed to scan the sky for hang-glider borne terrorists and small UAVs and another, CEDAR, a ground-based intruder detection system on display here at Aero India in Bangalore.

The airborne scanning IR camera is in service with undisclosed customers. Though developed for UAVs, it has potential applications on manned aircraft including helicopters, says Carni.

Also on show is a new version of the small STAMP (it's not much bigger than a grapefruit and weighs about 1 kg) stabilized payload for small UAVs. It has just been given an extra gimbal to improve the image stability. Most very small UAV EO cameras use electronic stabilisation that smoothes video images by comparing elements in the picture frame by frame and then repositioning the frames electronically to cancel the vibration. What they can't do is stabilise a single frame. With its extra gimbal, the latest STAMP can.

Peter Donaldson