

AERIAL SURVEILLANCE

Tellumat optimistic aerial surveillance system will fill gap in market

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THE Astus unmanned aerial surveillance (UAS) system is a tactical surveillance platform with a line-of-sight range of 200 km and an endurance of eight hours, and is a medium-sized UAS weighing under 100 kg. This makes it suitable for addressing a gap in the market for real-time tactical surveillance systems, says Tellumat CEO **Andrew Connold**.

The medium-sized UAS has daylight and cooled thermal-imaging sensors, and provides two high-definition video streams for the operator and the pilot through its directional antenna.

The Astus is expected to generate strong demand because it is suitable for real-time surveillance data collection and delivery for applications such as border and coastal security, environmental protection and peacekeeping.

“A bakkie or trailer is sufficient to deploy and operate the Astus, making it suitable for

use in tactical operations and to significantly increase the tactical awareness of units. The Astus system is also expected to feature prominently in noncombat roles, especially during emergencies and to provide information of a disaster zone.”

The system integrates an aircraft, ground-control system and camera payload capability in a high-performance surveillance package that is robust, durable, easily transported, quick to deploy and easy to operate.

The aircraft has a 5.2 m wingspan, an operating altitude of 9 000 ft and a service ceiling of 14 000 ft. It requires about 100 m of runway to take off and land and cruises at 55 knots.

The propeller-driven UAS runs on a conventional two-stroke petrol/oil fuel mixture. It also has a redundant battery system to ensure continuous operation in the event of a power failure. The Astus has a long-range C-Band video and data link system, which is part of Tellumat’s intellectual property, providing

integrated, long-range, secure communications that support high-definition video and data downlinks, says Tellumat UAS system engineer **David Jackson**.

A commercial ultrahigh-frequency data link is available as a backup.

“Tellumat has developed a family of UAS avionics, including a flight mission computer, a navigation sensor pack, a health monitoring unit, a new-generation digital data link and a hardware-in-the-loop simulation system.”

The portable, modular ground-control stations can be networked to allow for control of the Astus system by more than one pilot and payload operator geographically separated across the mission area. It consists of an operator control unit and ground data terminal that provide flight and mission-control management of the Astus.

The control units are housed in robust waterproof containers and incorporate sun light-readable, full high-definition, touch screen monitors. The ground data terminal provides long-range ground communication for the UAS. It is incorporated into the weatherproof tripod-mounted AP-1100 automatic global positioning system monitoring and precision positioning system. 