



In the midst of chaos there is also opportunity

Situational awareness is defined as the perception of environmental elements and events with respect to time or space, the comprehension of their meaning, and the projection of their future status. Soldier Modernisation talks to Rich Waldrom PgA, MAPM, Business Development & Programmes Director, Kinected Solutions Ltd

The importance of Situational Awareness on the battlefield cannot be understated. Throughout history understanding the terrain has almost always played a decisive role in any battle. The battlespace of the future will be a contested space for information superiority and Situational Awareness. The first responsibility of a leader is to define the reality of the ground for their team; it is the leader's job to interpret and translate the operating environment before stepping into a fight.

Sun Tzu states in the Art of War: "in the midst of chaos there is also opportunity". Never has this been truer than in today's modern operating environment. Battlefields have become increasingly congested and complex, placing an even greater reliance on reliable and detailed situational awareness. The side with the greater knowledge of the operating terrain around them will almost always have a significant advantage and will likely dominate the battlespace. Whether the adversary is a peer competitor, insurgent or criminal; the imperative for reliable and accurate Situational Awareness will not change.

Information tools will always be available to all sides, whether through technological means, expert knowledge of the terrain or good human intelligence (Humint). Situational Awareness tools and enablers are a critical element to achieving superiority on the battlefield.

Sensing the environment with Smart, low Size Weight and Power (SwaP), ergonomic and long life comm sensors will be key attributes for achieving Situational Awareness, enabling the development of pattern of life and activity awareness through advanced analytics. Ever evolving and advancing embedded processing capabilities will continue to grow and provide better opportunities to sense the environment.

In order to achieve higher level pattern awareness, sensors must be easy to use and able to integrate with other systems, including legacy platforms. Cyber and Electronic Warfare (EW) domain awareness will also play an increasingly important role in achieving Situational Awareness superiority.

The Phalanx Shield Q5i, features new cyber detection/counter-detection capability, detection ranges well in excess of current fielded systems, multiple classification types,





Fig 4: Phalanx Shield Unattended Ground Sensors kit

enhanced magnetic and double the autonomy of current products. New generation highly scalable ultra-low power 15+ km line-of-sight communications back to the Tactical Operations Centre (TOC).

The i5 PIR comes in wide angle/short range or long-range pencil beam/tripwire configurations. Either as a stand-alone sensor or coupled with Phalanx Shields Q5i UGS, the i5PIR adds improved target detection and sensor queuing capability.

Phalanx Shield offers an impressive 15+ km line-of-sight direct transmission range, as well as complete Cellular, Iridium SBD-to-SBD, 4G/LTE Tactical Network (e.g. Fenix BANSHEE) or MANET Radio based beyond line-of-sight relay/repeater capability. Each sensor can be monitored using the Phalanx Shield User Interface, or Cursor-on-Target (CoT) platforms to include ATAK, WinTAK or Raptor-X.

Phalanx Shield is the next level of performance in technology, advancing capabilities beyond yesterday's

Unattended Ground Sensors (UGS). Now with cyber detection/counter-detection, advanced processing (based on machine learning algorithms), long range communication and data management capabilities. These advances open the door to artificial intelligence implementation at the gateway/server level, intelligent processing, and algorithms, while achieving lower power consumption. Reduced False Alarm Rates, reliable long-range detection, and integration with an advanced User Interface, makes Phalanx Shield the most innovative Unattended Ground Sensor system on the market today.

Increased Performance:

- Multiple target classification types
- Best in class range/sensitivity
- 3x lower power consumption – up to 18 months

Next Generation Technology:

- Cyber detection capability (optional)
- Increased scalability – 100s of nodes
- Intelligent Algorithms Processing/Machine Learning
- Capacity for AI implementation at the Gateway
- Advanced sensor/data capture
- Ultra-low power wireless – 15+ km

Flexible Employment:

- AES encryption
- Full integration with the Phalanx Shield User Interface (2.0) as well as ATAK, WinTAK & Raptor X
- Backhaul via Cellular, Iridium SBD-to-SBD (optional), 4G/LTE Tactical Network (e.g. Fenix BANSHEE) or MANET Radio based repeater capability for beyond-line-of-sight. ■

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