

# 21 Century System Inc.'s *Force Protection Line* of Anti-terrorism & Force Protection Command and Control (C2) Software Tools

#### **Technology Application Overview**

21<sup>st</sup> Century Systems, Inc. ("21CSI") has created an impressive portfolio of anti-terrorism and force protection command and control (C2) software tools collectively known as the **Force Protection Line**. The Force Protection Line includes SentinelNet, HiRSA (High Resolution Situational Awareness) and Swimmer Detection product lines which are able to provide force protection and security personnel with advanced technology capabilities.

All programs combine intelligent agent software technology with communications networks, sensors, weapons systems and other data inputs, to produce a robust integrated system to counter suspicious and/or /hostile activity directed against military, industrial, public, and civilian targets. The product line is openarchitecture (OA) and modular in design, which enables it to integrate with legacy systems and all types of sensors and systems.

The technology is scalable and can be utilized across the entire spectrum of military, government and commercial security operations - single point, building, installation or open border regions. Both programs can also integrate facility or installation systems such as mass notification, Intrusion Detection System (IDS), fire alarm and access control.

The product line is versatile and adaptable and opens up a myriad of DOD, government and commercial markets. These include: 1) port/maritime security; 2) base/installation security; 3) critical infrastructure; 4) government/education facilities; 5) Department of Homeland Security missions; 6) military expeditionary missions; and 7) foreign military sales. Several of these domains, such as port/maritime and base/installation security, includes both military and commercial applications. 21CSI has already successfully marketed SentinelNet and HiRSA within the DOD and into multiple areas listed above.

### **Application Descriptions**

#### SentinelNet™ Maritime Anti-Terrorism/Force Protection Software

Originally optimized for use in a maritime environment, SentinelNet is an intelligent agent-based decision support tool for naval and maritime anti-terrorism/force protection (AT/FP) forces. It combines intelligent agent-based software technology with existing secure wireless communications to produce a robust network of sensors and sentries to counter suspicious/hostile activity directed against industrial, public, military, and civilian targets.



SentinelNet resides on a commercial-off-the-shelf (COTS)-based hardware and is built on an openarchitecture (OA) and modular software design, which allows it to be used either in a stand-alone environment, or integrated with existing legacy systems as the operational need may require. The SentinelNet software is hardware-agnostic and runs on a variety of common operating systems (OS).

SentinelNet fuses information from multiple sensor and data sources to produce a networked AT/FP common operating picture for sentries, roving patrols and force protection command centers. Designed to operate in maritime, land-based and expeditionary environments, SentinelNet functions as a networked system with a central command and control (C2) server and distributed "clients" (which may be web-based).

It automatically evaluates and distributes critical information, providing tailored Warning/Cautions/ Advisories (WCA), recommended courses of action for decision makers, and mission-specific task lists that are appropriate for each level of the AT/FP command organization. Scalable from a single point to large area security requirements, SentinelNet is interactive software in that it combines capabilities for managing force protection operations with other command and control capabilities. SentinelNet can also integrate facility or installation systems such as mass notification, Intrusion Detection System (IDS), fire alarm and access control. SentinelNet security agents will continuously monitor these systems and their outputs will be automatically integrated into the C2 decision support process.

The Naval Undersea Warfare Center – Newport has selected SentinelNet for the Integrated Swimmer Defense System (ISDS). SentinelNet will integrate the various ISDS systems and provide the operator with a robust common operating picture and decision support. ISDS is slated to be utilized by NECC force protection units around the world for port force protection operations.

#### HiRSA™ (High Resolution Situational Awareness) Expeditionary Force Protection Software

HiRSA was originally developed for use by the U.S. Marine Corps First Marine Expeditionary Force (1MEF) to automate perimeter security monitoring for Camp Fallujah, Iraq. HiRSA software provides operators with automated alerts and recommended courses of action by autonomously monitoring surveillance systems for anomalous activity.

In 2004 Naval Surface Warfare Center Panama City (NSWC-PC) asked 21CSI to build an agent-based command and control (C2) system for the Critical Area Protection System (CAPS) prior to deployment to Camp Fallujah. Shortly thereafter, 21CSI developed, tested and delivered the first version of HiRSA as the integrating C2 and visualization software for CAPS.

HiRSA operates on a commercial-off-the-shelf (COTS) hardware and is built as an open-architecture (OA), and modular software design, which allows it to be used as a stand-alone system, or integrated with existing legacy systems as the operational need may require. HiRSA is sensor and computer hardware-independent



and runs on multiple common operating systems (OS). HiRSA integrates inputs from a variety of databases and sensors.

This allows HiRSA to create a common information backbone that provides a fused view of the area under surveillance. Currently, the HiRSA software provides the operator with advanced command and control capability, which integrates a suite of sensors and communications, which enable enhanced situational awareness for force protection in the expeditionary environment. HiRSA supports high resolution GIS data rendering (imagery, terrain, features) and provides 2D/3D visualization of the surroundings.

The system also incorporates a mission planning tool, which allows operators to optimize sensor placement. CAPS/HiRSA was originally installed with five surveillance nodes and ten cameras on the network at Camp Fallujah. The system provided 1MEF (and later 2MEF) operations personnel with automated command and control capabilities that greatly reduced camp AT/FP operations center manpower requirements.

The 21CSI force protection team integrated multiple additional sensor types and both lethal and non-lethal weapons systems into HiRSA software capabilities for the Counter Bomb - Counter Bomber (CB2) Advanced Concept Technology Demonstration (ACTD) in Rota, Spain in October 2005. Marines and sailors successfully utilized HiRSA as their force protection integrating C2 software during a two-week assessment of various force protection systems under simulated, though realistic, scenarios focused on the protection of U.S. overseas high value assets.

In 2005/2006 NSWC-PC contracted 21CSI to integrate HiRSA with the Rocket Launch Spotter (RLS) system, an acoustics and infrared-based mobile system designed by the Naval Research Lab (NRL) to detect the location of enemy rocket launches. Even though the HiRSA software was ready, NRL was never able to certify that the RLS hardware operates properly, and the effort was modified to provide additional digital video recording (DVR) and other sensor management capabilities for CAPS.

The last spiral development for CAPS was conducted in March-June 2006. HiRSA was integrated into a DRS-developed C2 trailer and was utilized during an NDEA exercise in Michigan in June 2006.

Currently, HiRSA development is being directed by Headquarters Marine Corps, PP&O, Electronic Security System Division. The Marines are in need of an alternative force protection system for multiple USMC missions. Their goal is to utilize a single force protection C2 system for permanent CONUS installations and all expeditionary force protection missions. Contract negotiations are underway for two concurrent contracts, with anticipated execution by 30 September 2007. ONR is sponsoring the contract for HQMC and SPAWAR is facilitating the testing and certification of HiRSA software for this R&D effort.

HiRSA is also being utilized as the integrating software for the Intelligent Distributed Command & Control (IDC2) system that will be under contract the summer of 2008. IDC2 is a multiple mission system that will be installed at the Indiana National Guard's Muscatatuck Urban Training Center (MUTC) in southern Indiana.



IDC2 will provide MUTC with a perimeter surveillance and situational awareness system for critical remote points around the installation's perimeter. IDC2 will also be utilized as a surveillance system test bed for new sensor systems. Future phases of IDC2 will integrate other critical Indiana National Guard assets with the Indiana National Guard Joint Operations Center and the Indiana Homeland Security Operations Center for a state-wide surveillance and situational awareness system.

21CSI recently won the award to provide the surveillance and situational awareness information technology backbone for the end-to-end Jordan Border Security Program for which DRS Technologies, Inc. (NYSE: DRS) was recently selected.

#### Reason for Sale of the FPL

21CSI was formed in April 1996 to develop intelligent software agents to augment human and IT system interaction and interface synergistically to the benefit of both. Please see <a href="https://www.21csi.com">www.21csi.com</a>.

In 2005 and 2006, Inc. magazine inducted 21CSI into the Inc. 500, the magazine's annual ranking of the fastest-growing privately held companies in the United States. Entering its eleventh year with a three-year growth rate of 514.4% and 150 employees, 21CSI has offices in nine states supporting government and private-sector clients.

Market potential for the FPL product and system family is well into the hundreds of millions of not billions. 21CSI recognizes a larger company with a more established sales and support infrastructure in place would be better positioned to propel the FPL to reach its market potential. Therefore, 21CSI will be offering for sale or exclusive and/or perpetual license the entire FPL line. An acquirer would be offered any and all aspects, resources, continued support and development resources.

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