

COTS Multi Domain Worldwide International C5ISR System For Battlespace Awareness

Forces at the edge have access to data and C2 capabilities that were not previously possible.

WASHINGTON, D.C., USA, January 4, 2022 /EINPresswire.com/ -- In 2021, the U.S. Joint Chiefs of Staff laid the groundwork for an overall command and control strategy. The effort will consist of continuous experimentation phases which are used to create a [common data fabric](#). This will ensure each service has the “best solution” for its needs. In the words of Lt. Gen. Dennis Crall, chief information officer at the Joint Chiefs of Staff, this approach by [JADC2](#) will “bring order to our efforts in the command and control arena to sense, make sense and act all at the speed of relevance.”



Multi Domain Worldwide International C5ISR System



With Voice PTT and Full Motion Video

Meanwhile, over the last two decades, system developers at Advanced Ground Information Systems (AGIS) have succeeded in designing, developing and delivering a Worldwide International C5ISR system. This U.S., NATO, Australian system addresses most of the critical and complex components of the JADC2 (Joint All Domain Command and Control) common data fabric and includes integrated voice and Full Motion Video between 1,000's of users. During this time period, earlier C5ISR versions have been used by the [JCS](#) J6 on various military exercises. AGIS offers to make this updated C5ISR system available for use and testing to JADC2 as a COTS product under our existing JCS J6 warranty at no additional cost.

AGIS has been able to create a Multi Domain and Worldwide International (MDI) C5ISR system that uses available: communications, sensor processing, Cloud processing and automated Cloud data failover, to provide the warfighter at the edge access to data and capabilities that were not previously possible.

This COTS C5ISR system is available Now.

Interfacing U.S. and NATO C5ISR Systems' Synchronized COP

The lack of interface commonality between disparate Air, Ground and Sea communication systems has created an incompatible data link spaghetti farm of standards. Our resilient battlespace aware system combines the most often used data links into an

inclusive Multi Domain Data Link (MDDL) standard that supports a synchronized common operational picture (COP) for operator actions. It then reconstitutes the data into a format usable by the interfacing Air, Ground and Sea U.S. and NATO C5ISR systems. This includes: JVMF, OTH Gold, CoT, Link-16 and NATO NFFI, ADEM and NVG data links and intelligence data from ELINT, SAR, Radar, AIS, ADS-B and other sensor reports.

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Malcolm K. Beyer, Jr. CEO

For Radar processing see <https://youtu.be/ia8JMEGwPN0>

AGIS' C5ISR system includes the ability to direct Link-16 equipped aircraft and AFATDS to engage operator identified hostile targets.

Communications and Networks

AGIS, C5ISR system architecture accommodates and has been tested with HF radios, VHF radios, 5G cellular and a

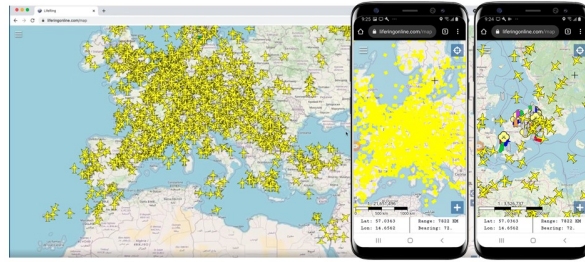
multi spectrum MESH and various satellite networks in differing configurations. The system can use various combinations of these communications and can shift between communication types. The MDI software operates both in a terrestrial mode (with up and down the Chain of Command server to server communications between units) or in a Cloud or in a combined environment connecting forces from headquarters to the tactical edge.

Expanding Commercial and Military Satellite Sensor Reports

There has been an exponential rise in the availability of both military and commercial satellite sources of sensor reports including ELINT, SAR, Radar and other data. This has resulted in massive amounts of sensor reports (10,000+) occurring at rapid update rates.

Massive Databases

10,000 to 100,000 real time sensor returns received every minute requires massive databases. Cloud technologies (AWS GovCloud, Azure, etc.) provide our MDI C5ISR system this capability



Worldwide International C5ISR on Handheld

either remotely or locally using devices such as AWS' Snowball edge. AGIS' MDI server senses the end nodes' capacity and automatically and appropriately proportions the rate, frequency and volume of data transmissions to the tactical edge. Our MDI C5ISR system accommodates over 10,000+ sensor reports by using the AWS GovCloud.

We have been testing 10,000+ real time sensor reports along with a small number of real C5ISR systems and 100s of simulated C5ISR systems over the past year.

Enhanced Command and Control Operator Capabilities

The number of functions and volume of data an AGIS C5ISR operator can access on a Smartphone is immense. View this 1-minute video of C5ISR Smartphone processing 10,000+ sensor reports at: <https://www.youtube.com/watch?v=YlIKd1bKID0>

Operational and Data Security.

AGIS protects operational data by combining several techniques. These include:

1. Password sign on.
2. 20-character private groups
3. Limited distribution message formats.
4. AES 256-bit encryption.

To this high level of protection, we have added XQ Message's advanced Zero Trust processing which includes additional 256-bit encryption.

Hostile RF Targeting

Events in Ukraine have clearly shown that use of hostile RF Targeting has become a monumental issue. Being acutely aware of this, AGIS' C5ISR system includes operator controls to greatly lessen the probability of RF intercept while maintaining a synchronized COP.

New Interoperability Interfaces

Link-16 has become the most widely used international data link standard. The Blackjack program is further expanding Link-16 to enable satellite-based operations. However, once called PLRATA, Link-16 was developed 50 years ago. Some of the newer communications methods, such as MADL (Multifunction Advanced Data Link) and CEC (Cooperative Engagement Capability) use directional communications to lessen the probability of RF tracking and offer significantly better antijam capabilities. Moreover, Link-16 is not common with artillery systems, Blue Force Tracking systems or with other U.S. and NATO systems. AGIS' MDDL processing rapidly resolves these interoperability issues. As an example, recently in less than two weeks, AGIS enabled ADS-B and Link-16 interoperability. For JADC2, we are willing to integrate MADL or CEC into AGIS' C5ISR system under JCS' existing AGIS software warranty.

Machine Learning / Artificial Intelligence

AGIS uses a limited form of Machine Learning in our multi radar tracking and data fusion processing. We are in discussions with an AI company to enable more rapid engagement processing within our common data fabric processing.

The U.S. JCS J6 already owns a copy of AGIS' MDI C5ISR software provided under our warranty agreement. It is awaiting testing at their Suffolk, VA Lab.

AGIS' C5ISR system is also available to Government agencies via the GSA Advantage website. Contract# 47QTCA22D000R.

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