

Guardrail/Common Sensor (GR/CS)

Provides signal intelligence collection and precision targeting that intercepts, collects, and precisely locates hostile communications intelligence radio frequency emitters and electronic intelligence threat radar emitters.



DESCRIPTION AND SPECIFICATIONS

The Guardrail/Common Sensor (GR/CS) is a corps-level, fixed-wing, airborne, signals intelligence (SIGINT) collection and precision targeting location system. The GR/CS system supports corps, division, and joint land force component commanders by detecting, identifying, exploiting, and precisely locating threat communications, radars, and other electronic emitters throughout the corps/joint task force (JTF) area of interest. It provides information dominance to the tactical commander.

One GR/CS system is authorized per aerial exploitation battalion in the military intelligence brigade at each corps. A standard system consists of eight to 12 RC-12 aircraft that fly operational missions in sets of two or three. Ground processing is conducted in the integrated processing facility, which is a building block toward the Army Distributed Common Ground Station (DCGS-A). Interoperable data links (IDL) and multi-role data links (MRDL) provide microwave connectivity between the aircraft and the integrated processing facility or the modernized Guardrail Information Node (GRIFN), which is a downsized and deployable version of the integrated processing facility and connects the airborne element to the ground processing element.

GR/CS systems provide near real-time SIGINT and targeting information to tactical commanders throughout the corps/JTF area via the Commander's Tactical Terminal (CTT), Tactical Related Applications Broadcast System (TRAPS), Tactical Reconnaissance Intelligence Exchange System (TRIXS), Tactical Information Broadcast Service (TIBS), and Integrated Broadcast Service (IBS). GR/CS serves as an operational platform for verification of new or improved technologies necessary for the future Aerial Common Sensor (ACS).

Key features include:

- Integrated communications intelligence (COMINT) and electronic intelligence (ELINT) collection

and reporting

- Enhanced signal classification and recognition, and precision emitter geolocation
- Near real-time direction finding
- Advanced integrated aircraft cockpit
- Tactical Satellite Remote Relay System (Systems 1, 2, and 4).

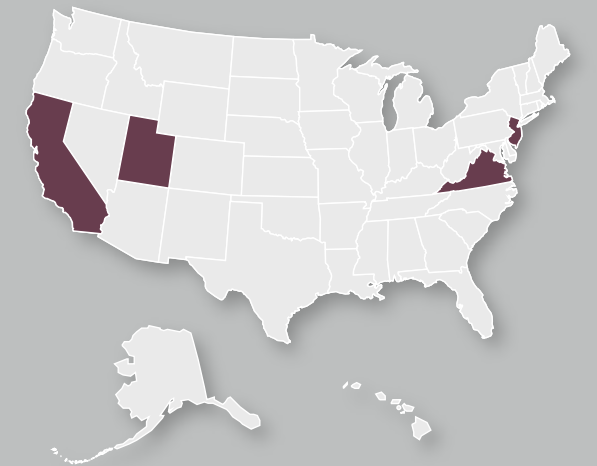
Planned product improvements include greater mobility, deployability, and system upgrades. Guardian Eagle (GE) upgrades increase GR/CS capability to exploit a wider range of signals, including both military communication emitters and commercially available hand-held communication devices. GR/CS shares technology with the Airborne Reconnaissance Low (ARL) and other joint systems.

PROGRAM STATUS

- Fielded Reporting shelter and conducted accreditation testing to GR/CS System 2; Transportable Medium Earth Terminal (TMET) for remote relay capability for System 4; Advanced Quicklook X-Wing diagnostics system capability to all systems; Guardian Eagle, Enhanced Signal Exploitation, to Systems 2 and 4; and Triband SATCOM Terminal (TST) to System 4 to support remote relay operations
- Completed final TIBS capability to all GR/CS systems
- Received full materiel release for GR/CS System 2
- **2QFY04** Completed GRIFN upgrade on System 1
- **4QFY04** Complete Radio Relay System (RRS)/Interference Cancellation System (ICS) upgrade on System 3.
- **1QFY05** Install Airborne Tactical Common Data Link (ATCDL) on System 1
- **1QFY05** Provide additional GE (Delta Wing/X-Midas) capability to System 1

PROJECTED ACTIVITIES

- **4QFY05** Install ATCDL on System 4



CONTRACTORS

Guardian Eagle Upgrades:

Northrop Grumman (Sacramento, CA)

Data Links:

L-3 Communications (Salt Lake City, UT)

Radio Relay Sets: Raytheon (Falls Church, VA)

SIGINT Support: CACI (Eatontown, NJ)

X-Midas Software: ZETA (Fairfax, VA)

INVESTMENT COMPONENT

Modernization

ACQUISITION PHASE

- Operations and Support

Guardrail/Common Sensor (GR/CS)