

# 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.

## INVESTMENT COMPONENT

Modernization

Recapitalization

Maintenance



## Description & Specifications

The Guardrail Common Sensor (GR/CS) is a corps-level, fixed-wing, airborne, signals intelligence (SIGINT) collection and precision targeting location system. It provides near-real-time information to tactical commanders in the corps/joint task force area with emphasis on deep battle and follow-on forces attack support. It collects low-, mid-, and high-band radio signals; identifies and classifies them; determines source location; and provides near-real-time reporting, ensuring information dominance to commanders. GR/CS uses an integrated processing facility (IPF), the control, data processing, and message center for the system. It includes:

- 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)

A standard system has eight to 12 RC-12 aircraft flying operational missions in sets of two or three. Up to three airborne relay facilities (ARFs) simultaneously collect communications and noncommunications emitter transmissions and gather lines of bearing (LOBs) and time difference of arrival (TDOA) data, which is transmitted to the IPF, correlated, and supplied to supported commands. One GR/CS system is authorized per aerial exploitation battalion in the military intelligence brigade at each corps.

Planned improvements include an enhanced precision geolocation subsystem, CHALS-C, with increased frequency coverage and a higher probability to collect targets, and a modern COMINT infrastructure and Core COMINT subsystem, Enhanced Situational Awareness (ESA), providing a frequency extension, a

capability to process special signals, and elimination of non-supportable hardware and software. Ground processing software and hardware are being upgraded for interoperability with the DCGS-A architecture and Distributed Information Backbone.

## Program Status

- **2QFY06:** System 2 adapter cable contract award
- **2QFY06:** X-Midas B-Kit contract award, 22 sets
- **3QFY06:** System 2 stabilization contract award
- **4QFY06:** CHALS-C contract award
- **4QFY06:** CHALS-C /GE/X-Midas location integration contract award
- **4QFY06:** X-Midas System 2 Audio contract award

## Projected Activities

- **3QFY07:** ESA contract award
- **1QFY08:** GGB system fielding
- **2QFY08:** CHALS-C factory acceptance test
- **2QFY09:** ESA system assessment

## ACQUISITION PHASE

Concept & Technology Development

System Development & Demonstration

Production & Deployment

Operations & Support

## Guardrail Common Sensor (GR/CS)

### FOREIGN MILITARY SALES

None

### CONTRACTORS

#### Data links:

L-3 Communications (Salt Lake City, UT)

#### CHALS-C:

Lockheed Martin (Oswego, NY)

#### Guardian Eagle upgrades:

Northrop Grumman (Sacramento, CA)

#### Radio relay sets:

Raytheon (Falls Church, VA)

#### SIGINT support:

CACI (Eatontown, NJ)

#### Software/system support:

Northrop Grumman (Sacramento, CA)

#### X-Midas software:

ZETA (Fairfax, VA)

