

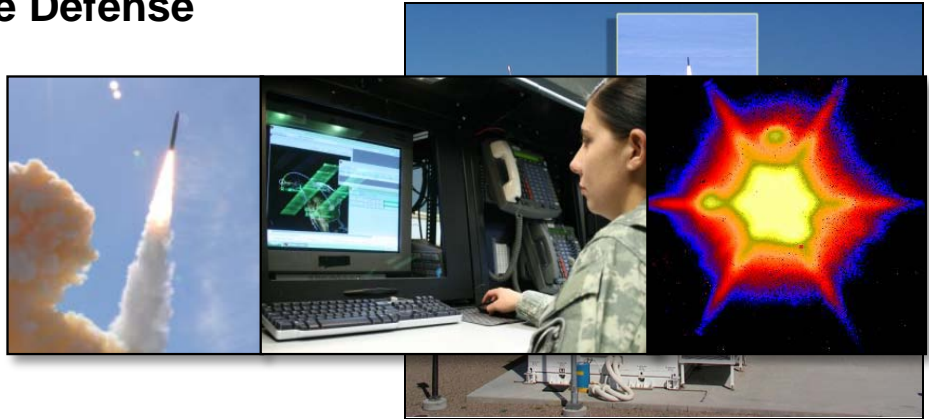


# Fact Sheet

5700 18th Street, Bldg 245  
Fort Belvoir, VA 22060-5573

## Ground-based Midcourse Defense

The Ground-based Midcourse Defense (GMD) element of the Ballistic Missile Defense System provides Combatant Commanders the capability to engage and destroy limited intermediate- and long-range ballistic missile threats in the midcourse battle space to protect the United States.



### Overview

- GMD employs communications systems, fire control capabilities and Ground-Based Interceptors that are capable of detecting, tracking and destroying ballistic missile threats by utilizing multiple sensors.
- The Exo-atmospheric Kill Vehicle (EKV) uses the kinetic energy from a direct hit to destroy the incoming target. It is a sensor-propulsion package that collides with the re-entry vehicle. This hit-to-kill technology has been proven in a number of successful flight tests, including three using Ground-Based Interceptors.

### Details

GMD is composed of Ground-Based Interceptors and Ground Systems components.

- **Ground-Based Interceptor** is a three-stage, solid fuel booster with an EKV. When launched, the booster missile carries the EKV toward the target's predicted location in space. Once released from the booster, the EKV uses guidance transmitted to it and from its own on-board sensors to close with and destroy the target warhead well outside Earth's atmosphere using only the kinetic force of the direct collision to destroy the target warhead.
- **Ground Systems** consists of redundant fire control nodes, interceptor launch facilities, and a communications network. GMD Fire Control (GFC) receives data from satellites and ground-based radar sources and uses that data to task and support intercept of target warheads using Ground-Based Interceptors. The GFC also provides the Command & Control, Battle Management & Communications element with data for situational awareness.

### Deployment

- Interceptor missiles are emplaced at Fort Greely, Alaska and Vandenberg Air Force Base, Calif. A total of 30 interceptors were deployed at the end of 2010.
- Fire control, battle management, planning, tasking and threat analysis take place via a dual-node, human-in-control interface located in Fort Greely, Alaska and Colorado Springs, Colo. Warfighters of the 49<sup>th</sup> Missile Defense Battalion at Fort Greely, Alaska and of the 100<sup>th</sup> Missile Defense Brigade at Colorado Springs, Colo. operate the system.
- All GMD components communicate through the GMD communications network, a secure data and voice communications system using both SATCOM and fiber optic cabling for long-haul communications.