



# Fact Sheet

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## 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 space to protect the United States.



### Overview

- GMD employs integrated communications networks, fire control systems, globally deployed sensors, and Ground-based Interceptors (GBIs) that are capable of detecting, tracking and destroying ballistic missile threats.
- The Exo-atmospheric Kill Vehicle (EKV) is a sensor/propulsion package that uses the kinetic energy from a direct hit to destroy the incoming target vehicle. This hit-to-kill technology has been proven in a number of successful intercept flight tests, including nine using GBIs.

### Details

- **GMD** is composed of GBIs and Ground Support & Fire Control Systems components.
- **The GBI** is a multi-stage, solid fuel booster with an EKV payload. When launched, the booster carries the EKV toward the target's predicted location in space. Once released from the booster, the EKV uses guidance data transmitted from Ground Support & Fire Control System components and on-board sensors to close with and destroy the target warhead. The impact occurs outside the Earth's atmosphere using only the kinetic force of the direct collision to destroy the target warhead.
- **Ground Support & Fire Control Systems** consist 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. The GFC uses the data received to support and task and the GBIs to intercept inbound targets. The GFC data provides situational awareness to the Command & Control, Battle Management & Communications (C2BMC) element.

### Deployment

- GBIs are emplaced at Fort Greely, Alaska, and Vandenberg Air Force Base, California. A total of 30 interceptors have been emplaced—26 at Fort Greely and 4 at Vandenberg Air Force Base.
- 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, Colorado. Warfighters of the 49th Missile Defense Battalion at Fort Greely, Alaska, and of the 100th Missile Defense Brigade at Colorado Springs, Colorado, operate the system.
- The GMD communications network uses satellite communications and fiber optic cabling as means to provide secure voice and data for GMD components.