

Integrated Defense Systems
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Ground-based Midcourse Defense

Description & Purpose: The nation's only operationally deployed capability to defend against long-range ballistic missiles.

Customer: The Ground-based Midcourse Defense (GMD) system is the centerpiece of the U.S. Missile Defense Agency's (MDA's) layered ballistic missile defense architecture.



General Characteristics: GMD is designed to detect, intercept and destroy long-range ballistic missiles during their midcourse phase of flight. It provides early detection and tracking during the boost phase, as well as midcourse target discrimination, precision intercept and destruction of the target through force of collision. The system employs a three-stage ground-based interceptor equipped with an Exo-atmospheric Kill Vehicle (EKV) as well as multiple sensors, communications systems and fire control capabilities.

As prime contractor, Boeing is designing, producing, integrating, testing and sustaining all GMD components. Key subcontractors include Raytheon, which provides kill vehicles and radars; Orbital Sciences Corp., which supplies interceptor boosters; and Northrop Grumman, which provides the battle management.

Background: GMD has been in development since 1998 and incorporates decades of research, development, test and evaluation on proven "hit-to-kill" and other advanced technologies.

In December 2002, President Bush directed the Department of Defense to field an initial set of missile defense capabilities, including GMD, by 2004-2005. Two and half years later, in the fall of 2004, the Boeing GMD team began fielding ground-based interceptors at Ft. Greely, Alaska, and Vandenberg Air Force Base, Calif. Initial GMD components also included high-powered radars based on land and at sea, and a command-and-control system consisting of an extensive communications network and two fire control nodes.

There are currently over 20 interceptors fielded and the program continues to field additional interceptors and to integrate additional sensors into the GMD system. GMD

system elements reach across 12 time zones and are linked by over 20,000 miles of fiber optic cable.

The system is alert-capable, providing the first-ever active defense of the United States against intercontinental ballistic missiles. Under rigorous testing, the GMD system has demonstrated impressive capabilities, including the ability to shoot down an incoming ballistic missile.

The system has achieved a total of eight successful intercept tests, including three successful intercept tests with the operationally configured interceptor. Flight testing is scheduled to continue.

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