

Ready for a tough test

GMD team prepares for complex missile intercept system trial

By Patricia Soloveichik

The world is watching—thanks to heightened news coverage of new ballistic missile threats—as the Boeing-led Ground-based Midcourse Defense program and its teammates approach their most complex test, set for the end of this year. The test will challenge the system’s end-to-end ability to detect, track and destroy a lethal ballistic missile target.

Flight tests are part of an ongoing program of test and integration activities that are central to mission readiness for GMD, an operational element of the Ballistic Missile Defense System (BMDS) that’s ready to defend the United States against a limited long-range ballistic missile attack.

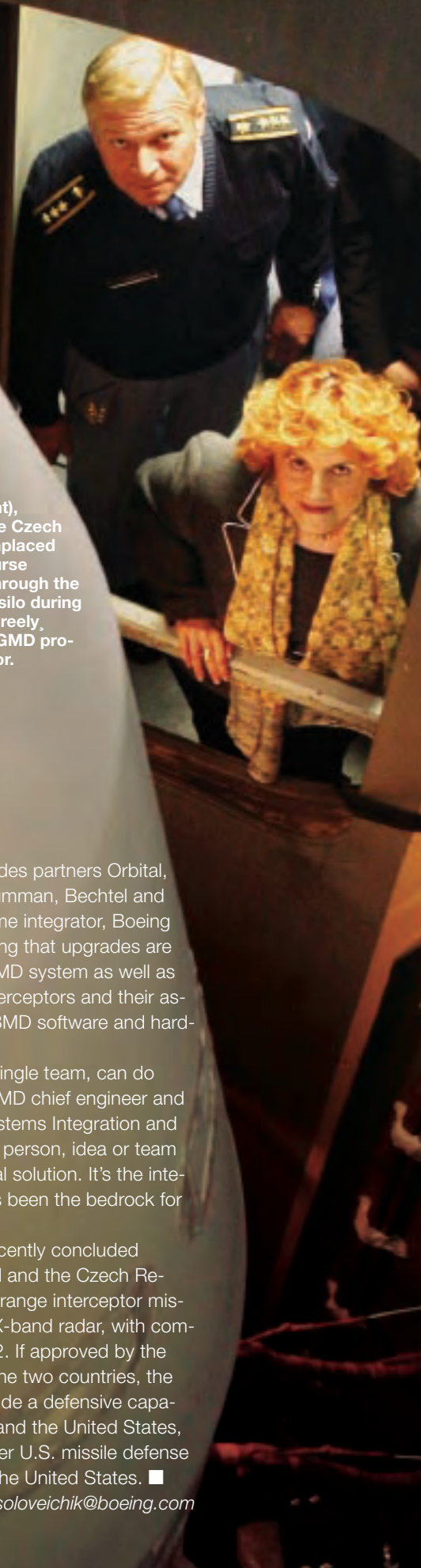
The test marks the first time every aspect of the system—including all radars, sensors, satellite centers, fire control nodes, and weapons systems associated with the long-range ballistic missile defense systems—will be tested together in a real-world missile shutdown. A test earlier this year focused on multisensor integration with a simulated interceptor. MDA has tested the interceptors in real-world intercepts, but did not have all MDA radars online as they will in the next test.

GMD is part of the Missile Defense Agency’s complex communications network—the BMDS—that includes sensors, radars, and the sophisticated hardware and software capable of intercepting enemy missiles. The system consists of ground-based interceptors in Alaska and California, along with land-, sea- and space-based sensors and a sophisticated command-and-control system.

GMD interceptors are complex, requiring guidance and communications systems capable of hitting an enemy missile with pinpoint precision. The GMD interceptor carries no ordnance; instead, it relies on the force of a midair collision to destroy incoming ballistic missiles.

“Our customer has compared the complexity of this system to NASA’s human space flight program,” said Greg Hyslop, GMD vice president and program director. “The intensity of the mission is just as great. This is the United States’ only defense against long-range ballistic missile threats. People’s lives depend on our ability to get this right.”

The GMD program, managed out of Huntsville, Ala., has had seven successful intercept tests, leading up to and including missile shoot-downs with operationally configured interceptors in 2006 and 2007. The upcoming test is designed to “push the envelope” to determine if there are issues with any aspect of the operational system.



Vlasta Parkanova (right), defense minister of the Czech Republic, views an emplaced Ground-based Midcourse Defense interceptor through the open blast door of its silo during a recent visit to Fort Greely, Alaska. Boeing is the GMD program’s prime integrator.

MISSILE DEFENSE AGENCY

The GMD team includes partners Orbital, Raytheon, Northrop Grumman, Bechtel and Teledyne Brown. As prime integrator, Boeing is responsible for ensuring that upgrades are incorporated into the GMD system as well as integrating improved interceptors and their associated software into BMD software and hardware systems.

“No one person, or single team, can do this,” said Norm Tew, GMD chief engineer and director of Weapons Systems Integration and Test. “It’s never just one person, idea or team that provides the optimal solution. It’s the integration of ideas that has been the bedrock for GMD’s success.”

The United States recently concluded agreements with Poland and the Czech Republic to install 10 long-range interceptor missiles and an advanced X-band radar, with completion planned for 2012. If approved by the parliaments of each of the two countries, the interceptor site will provide a defensive capability to protect Europe and the United States, and will be linked to other U.S. missile defense facilities in Europe and the United States. ■

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