



Precision Tracking Space System

The Missile Defense Agency (MDA) is developing the Ballistic Missile Defense System (BMDS) as an integrated system of sensors and interceptors connected by a command and control network to counter the growing threat of ballistic missiles. Since ballistic missiles can cross any and all geographic boundaries on the way to the intended target it is difficult to position air, ground, or sea-based sensors to effectively track them – especially when the optimal location might require host nation agreements. To address this challenge, MDA is developing the Precision Tracking Space System (PTSS) to provide space-based tracking of ballistic missiles, enabling simultaneous homeland, regional, and theater missile defense.



Space-based sensors provide the most cost-effective and operationally suitable means for global persistent surveillance of ballistic missiles. PTSS will augment the BMDS by employing a constellation of infrared sensors that will exploit all the advantages of orbital placement in space for precision missile tracking. PTSS satellites will provide reliable tracking data to the BMDS improving both U.S. homeland defense and defense against large raids as part of the Phased Adaptive Approach. It will meet warfighter needs by providing persistent tracking, addressing the post-boost challenge, tracking ballistic missile objects continuously, supporting object characterization and discrimination, and being an agile, effective sensor against mobile and emerging threats.

With PTSS, the MDA is using a proven acquisition approach – the initial development program is performed by government and trusted laboratories, followed by a competitive procurement with industry for additional production. The program also has embedded military service representatives from the Air Force, and soon from the Navy.

PTSS Benefits

- Provides reliable and available ballistic missile tracking capability in the areas of the world of most concern.
- Eliminates the need for host nation agreements.
- Maintains battlespace awareness with persistent, space-based tracking, even with threats arising from unexpected locations or new adversaries.
- Observes and tracks launches beyond the range of airborne and terrestrial sensors.

PTSS Program Milestones

- Program Office established – October 2009.
- Stood up Air Force Service Cell within the PTSS Hybrid Program Office – August 2010.
- Awarded Applied Physics Lab subcontracts with industry for the Manufacturing and Production Readiness Integrated Systems Engineering Team – February 2011.
- Completed PTSS System Requirements Review – March 2011.
- Completed Business Case Analysis: Payload Agility System Study – December 2011.

PTSS Outlook

- Risk reduction activities currently underway for the sensor and attitude control assemblies.
- Stand up of Navy Service Cell in PTSS Hybrid Program Office estimated mid- to late-2012.
- Preliminary Design Review scheduled for Fall 2013.
- Award industry manufacturing and production contract through open competition in Q4FY14.
- Launch the two laboratory development satellites planned for Summer 2017.