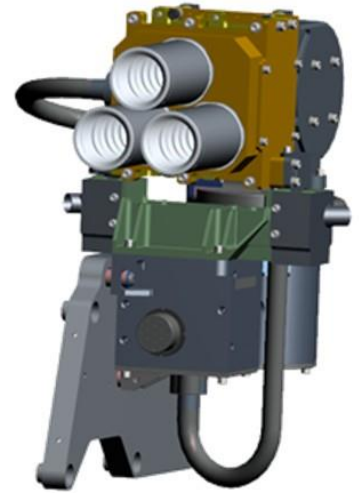




Spacebased Kill Assessment

The Spacebased Kill Assessment (SKA) experiment will be a network of small sensors hosted on commercial satellites. The individual sensors house three infrared detectors used to collect the energy signature of the impact between a threat ballistic missile and an interceptor of the Ballistic Missile Defense System. The SKA experiment is currently in the satellite integration and testing phase and is expected to be on orbit in 2018.

In Fiscal Year 2014 several events prompted the Missile Defense Agency to start the SKA experiment. The Fiscal Year 2014 National Defense Authorization Act directed the Missile Defense Agency to address hit and kill assessment for the Ballistic Missile Defense System. An internal study on space highlighted strategies that could provide sensor capabilities at lower price points. In addition an opportunity for hosting sensors on commercial space platforms became available. In April 2014 after coordination with the combatant commands and Congressional staff, the Missile Defense Agency began the SKA experiment.



SKA Sensor Assembly

Capabilities crucial to the Ballistic Missile Defense System

- Resilient capability provided by network of connected sensors
- Real time tasking and reporting
- Multi-spectral sensor with three fast frame, infrared detectors capable of capturing the intercept signature
- Connected to BMDS command and control elements for tasking and reporting
- SKA data can be fused with radar data for integrated, multi-phenomenology benefits

SKA is important to materiel developers like the Missile Defense Agency for several reasons

Real world example of disaggregation

- DoD sensors on board commercial satellites leverage existing capital investments
- Hosting platform discourages custom command and control that can require excess infrastructure and personnel

Case study for how to contain development costs

- Constrained schedule avoids #1 cost driver of space programs: people x time
- Purchasing services on-orbit avoids development and integration costs

Experiment that will potentially deliver leave-behind capability

- Design strategy will deliver experimental capability while not precluding warfighter decision to operationalize
- If successful the warfighter could operationalize SKA at “pay as you go” operations and sustainment costs