



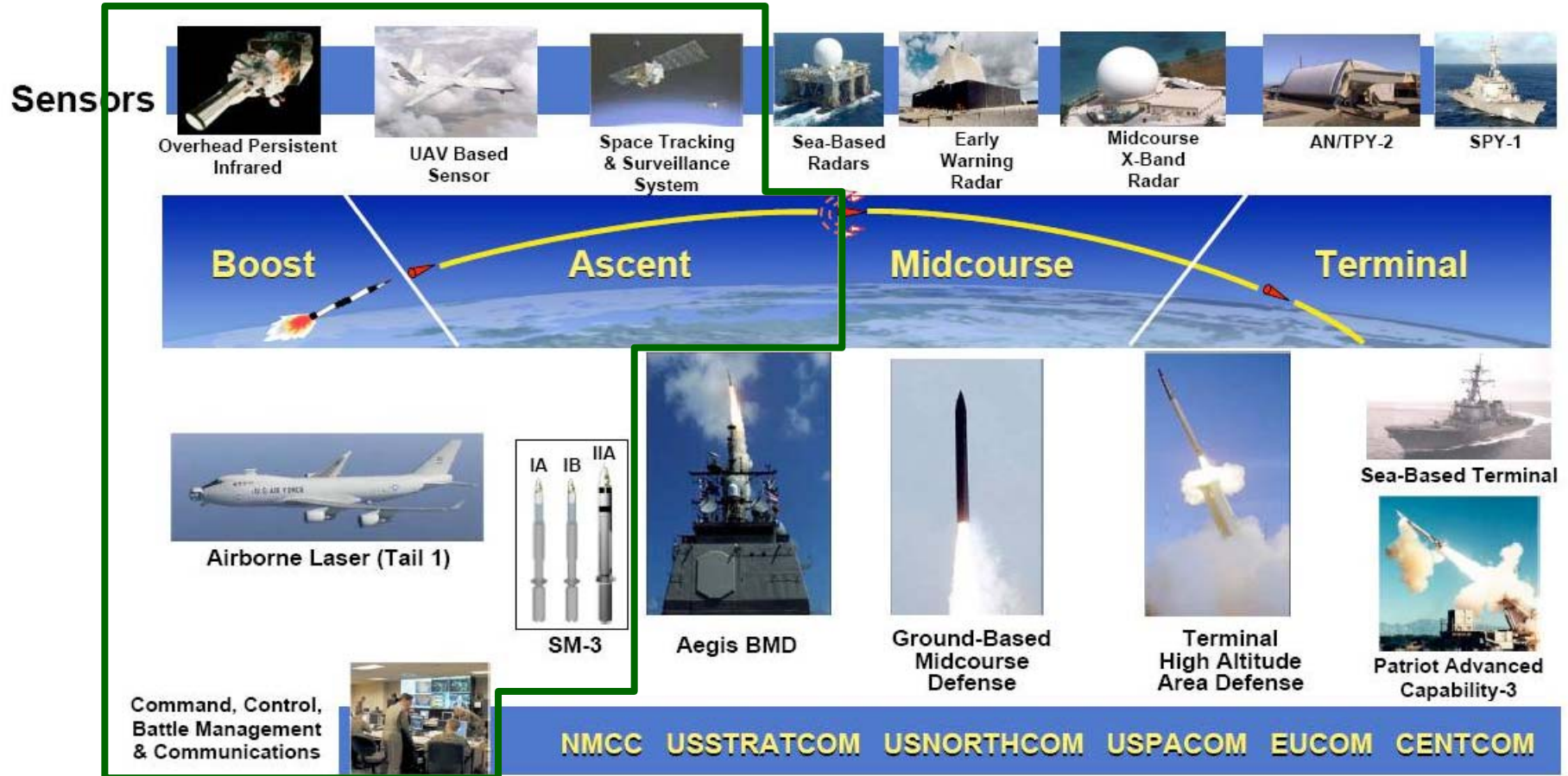
# Advanced Technology

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**Missile Defense Agency**



# Integrated Ballistic Missile Defense System

MDA SBIR/STTR Industry Day



**PB10 Sustains Midcourse Defense (ICBMs) While Emphasizing Terminal (SRBMS) And Efficient And Operationally – Effective Early Intercepts (MRBMs, IRBMs)**



# Missile Defense FY '10 Budget Request

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- ◆ BMDs Strategic Objective: Develop and field a balanced integrated architecture that will counter existing threats, and over time, provide more cost-effective operational ability, and agile enough to protect against uncertain threats of the future.
- ◆ There is increased emphasis on the near-term development and fielding of capabilities against short- and medium-range ballistic missile threats to enhance the protection for deployed forces and allies.
- ◆ Strategic goals focus on far-term program development, enhanced testing, modeling, and simulation programs for all ranges of threats and development of an ascent phase intercept capability.



# Advanced Technology Focus

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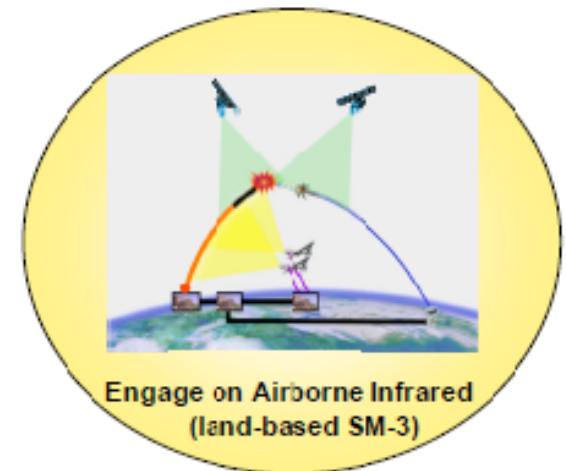
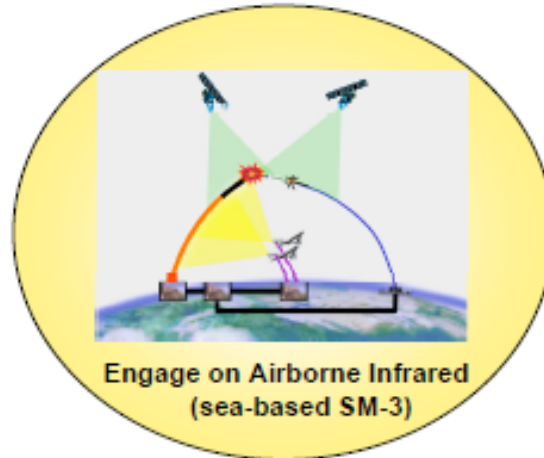
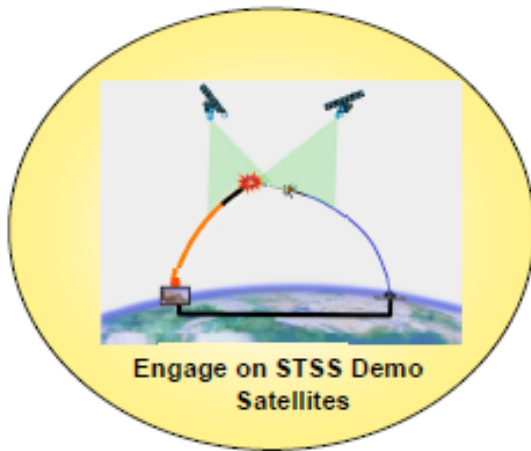
- ◆ **The MDA Advanced Technology near-term focus is to develop new innovative concepts and technologies that can be applied to achieve early intercept capability and to stay ahead of the threat, improve system performance, and lower life-cycle costs.**
  
- ◆ **Benefits**
  - Expands engagement opportunities to all phases
  - Kill chance before countermeasures deploy
  - Expanded shoot-look-shoot opportunity (increases inventory efficiency)



# Advanced Technology Demos

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- ◆ **Execute near-term demonstrations while investing in revolutionary/high-payoff technologies (future demos)**
  - Focused demonstrations integrating near-term technology
  - Demonstrate technology prior to milestone B decision

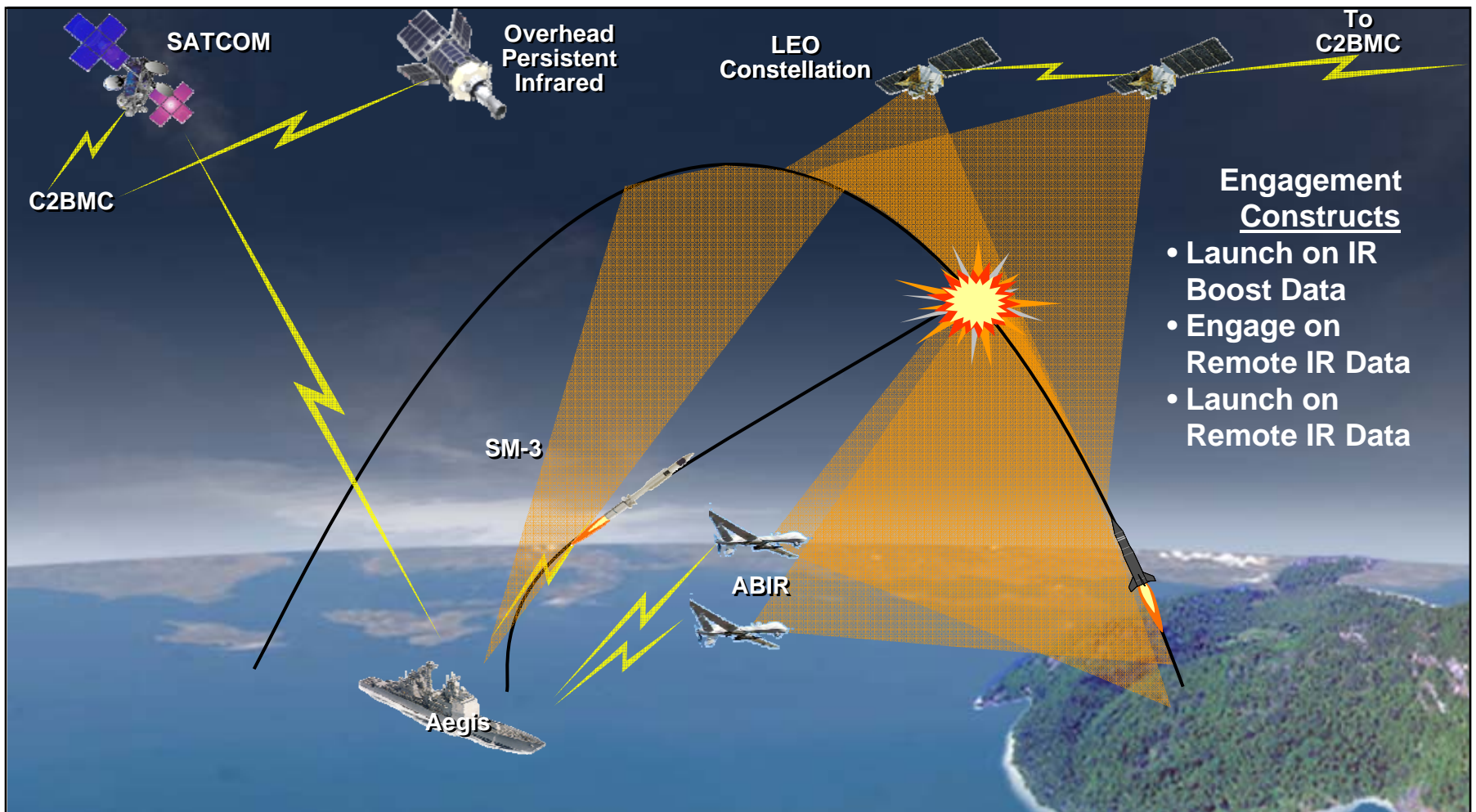


**Acquisition Decisions Supported by Operationally Realistic Demonstrations**



# Early Intercept Operational Context

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# Challenges

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- ◆ **Develop an affordable, deployable, and operable military system that includes**
  - Early Intercept
  - Land Based SM-3
  - Passive Tracking Surveillance System
  - SM-3 Blk IIA
  - Airborne Infrared Systems
  - Overhead Persistent Infrared
  - Sea Based Terminal
- ◆ **Science and Technology Exploration**
  - Light-weight KVs
    - ◆ Seekers
    - ◆ Avionics
    - ◆ Divert & attitude control systems
  - Pervasive sensing
  - Multiple phenomenology early launch detection
  - Multi-spectral seekers (discrimination & bus tracking)
  - Ascent Phase Lethality
  - Guidance, navigation, and control (GN&C)
  - Extended range, enhanced maneuverability interceptors
  - Open architecture battle management, command, control, and communication solutions
  - Algorithms & software to implement tracking, discrimination, GN&C, and aimpoint selection functions.



# Summary

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- ◆ **Demonstrate early intercept**
  - Seeking industry solutions for technology challenges
- ◆ **Pursue game-changing concepts/technologies to outpace threat**
  - Seeking industry high risk/reward concepts
- ◆ **Technology demonstration before acquisition decision**



# MISSILE DEFENSE AGENCY

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## Questions and Comments