# *Information Dominance For Navy BMD*

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**The overall classification of this brief is: UNCLASSIFIED**

# *Concept – Central Idea*

- Bring Information Power capabilities to bear globally in new and better ways to fully integrate Navy with the Global Ballistic Missile Defense System at the Regional to Global level in support of the Joint Force

- Provide the C3I which will enable the C2 to make rapid decisions inside the adversary's decision cycle and fully support kill vehicles

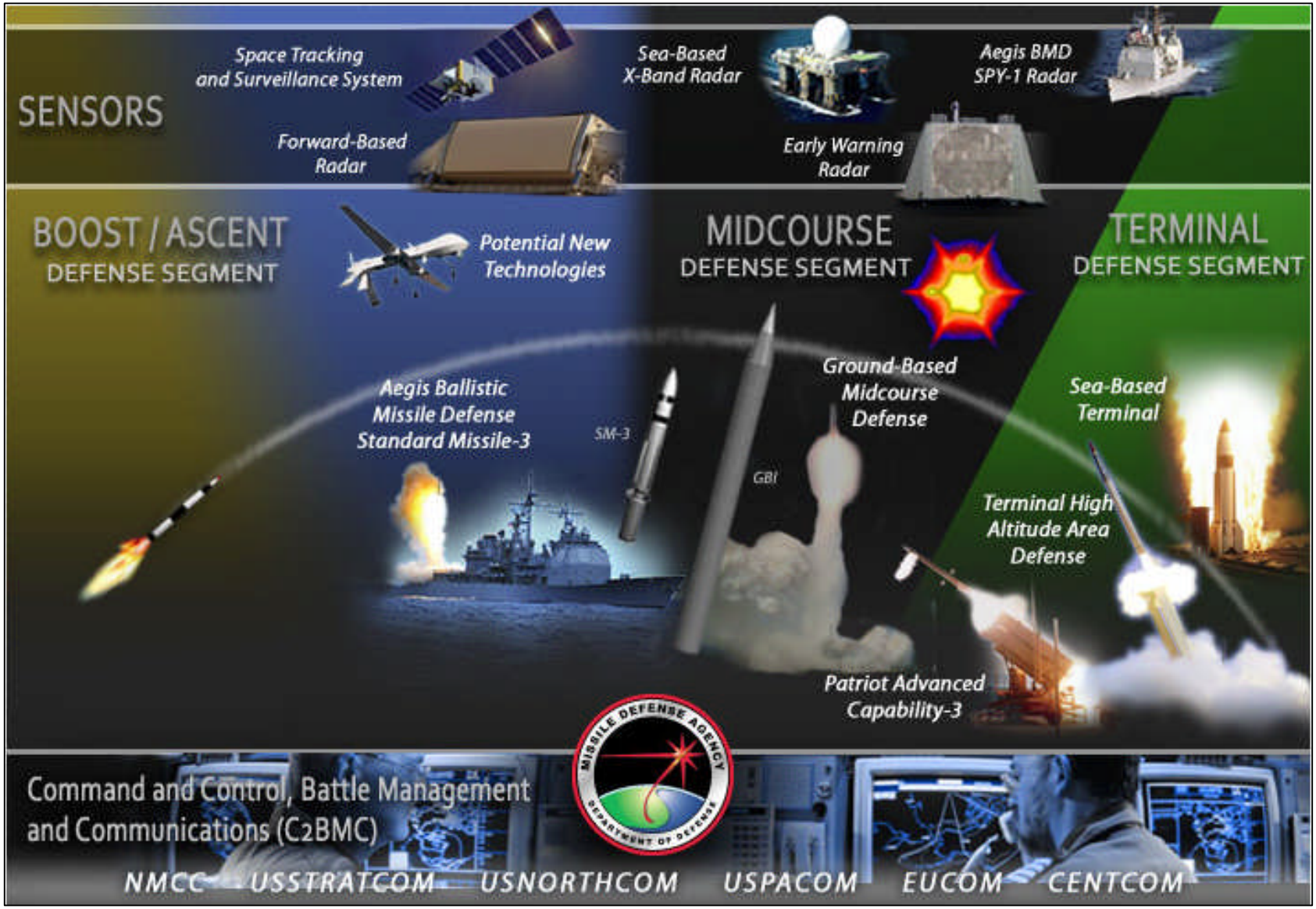
- Provide understanding of the adversary's operations and intent… across all operational phases

- Coordinate and integrate BMD capabilities with Coalition Partners

- Man and train (individual and unit level) to enable new capabilities

# Global Ballistic Missile Defense System

## Growing Complexity



# European Phased Adaptive Approach (EPAA)

• Phase 1 (2011): Deploy current and proven missile defense systems including the sea-based Aegis Weapon System, the SM-3 Block 1A and sensors such as AN/TPY-2 Radar to address regional ballistic missile threats to Europe

• Phase 2 (2015): Deploy more capable SM-3 Block 1B in both sea- and land-based configurations, and more advanced sensors to expand the defended area against short- and medium-range threats

• Phase 3 (2018): Deploy more capable SM-3 Block 2A to counter short-, medium- and intermediate-range threats

• Phase 4 (2020): Deploy more capable SM-3 Block 2B to better cope with medium- and intermediate- range missile threats and potential future ICBM threats to the United States

# Navy Challenges

## *Going into EPAA Phase 1 (2011)*

- Rapidly improving Iranian ballistic missile capability---near term, the greatest missile threats will be to US Allies and partners, as well as to US deployed personnel in the Middle East and Europe
- Complex US, NATO and National BMD architectures
- Increased Navy BMD mission and C2 responsibilities
- Communications challenges
- C3I support requirements for Aegis Ashore being defined

# First Delivery Focus Areas – Navy BMD

| | |
|---|---|
| **EPAA C3I** | ***Roadmap Objective*:** Deliver MOC and Commander Task Force Integrated Air and Missile Defense the capability to effectively Command and Control Navy BMD forces<br><br>***Roadmap Objective*:** Deliver fully integrated C3I capabilities for EPAA Navy shore sites |
| **Early Launch Detection / Tracking** | ***Roadmap Objective*:** Deliver more timely, accurate and reliable early launch detection and tracking to Navy commanders and BMD forces |
| **Synchronization of Effects** | ***Roadmap Objective*:** Integrate and synchronize kinetic and non-kinetic effects in BMD planning and execution within Navy and with Theater and Global BMD Systems |
| **Cyber Operations** | ***Roadmap Objective*:** Better understand ballistic missile capabilities, status and intentions<br><br>***Roadmap Objective*:** Deliver specific effects |

# Near-Term Solutions (to 2012)

## *Initial PAA Capability*

| Objective | Solutions |
|---|---|
| **EPAA C3I**<br>**Network Access / Management**<br>**Integrated BMD Planning**<br>**Aegis Ashore Requirements** | • MOC BMD nets, data link management<br>• Strategic and theater BMDS integration<br>• Theater and Navy BMD / IAMD planning systems |
| **Early Launch Detections and Tracking**<br>**Faster detection, correlation**<br>**Enhanced characterization** | • Joint Missile Defense / Missile Warning data exposure<br>• Navy requirements integration into new sensor capabilities<br>• Sensor data integration in Distributed Common Ground System – Navy (DCGS-N) |
| **Synchronized Effects (Kinetic / Non-Kinetic)**<br>**In BMD Planning and Execution** | • Data access policy / doctrine<br>• CONOPS, TTPs and training<br>• Navy non-kinetic effects modeling database |
| **Cyber Ops**<br>**Access**<br>**Cross-echelon coordination**<br>**Capability development** | • Cyber Concepts, CONOPS and tasking processes (Joint)<br>• Navy strategy and CONOPS<br>• Analysis of alternatives and Initial Capabilities Document |

# Mid-Term Solutions (2013-2014)

## *Increasing PAA Sophistication*

| Objective | Solutions |
|---|---|
| **EPAA C3I**<br>**Network Access / Management**<br>**Integrated BMD Planning**<br>**Aegis Ashore Requirements** | • Additional net capability and capacity<br>• Joint / Navy mission planner interoperability<br>• Aegis Ashore system integration, install |
| **Early Launch Detections and Tracking**<br>**Faster detection, correlation**<br>**Enhanced characterization** | • New sensors support to SM-3 upgrades<br>• Fusion capabilities in Distributed Common Ground System – Navy (DCGS-N)<br>• Launch detection / tracking CONOPS |
| **Synchronized Effects (Kinetic / Non-Kinetic)**<br>**In BMD Planning and Execution** | • Common Operational Picture visualization tool(s)<br>• Closed-network training application in planning systems<br>• Joint non-kinetic effects catalog/database mechanism |
| **Cyber Ops**<br>**Access**<br>**Cross echelon coordination**<br>**Capability development** | • Navy-unique access<br>• Closed-network development, experimentation and training<br>• Responsive effects feedback |

# Mid-Term Solutions (2015-2016)

## *Increasing PAA Sophistication*

| Objective | Solutions |
|---|---|
| **EPAA C3I**<br>**Network Access / Management**<br>**Integrated BMD Planning**<br>**Aegis Ashore Requirements** | • Strategic, theater planning system upgrades<br>• Forward basing C3I integration<br>• Joint / Navy planning system convergence path |
| **Early Launch Detections and Tracking**<br>**Faster detection, correlation**<br>**Enhanced characterization** | • Leverage new sensor systems<br>• Interface with and access additional data streams<br>• Integrate Navy sensor data in Joint / National networks |
| **Synchronized Effects (Kinetic / Non-Kinetic)**<br>**In BMD Planning and Execution** | • Integrate Navy / National non-kinetic databases<br>• Integrate non-kinetic effects modeling capability<br>• Navy synchronized non-kinetic effects modeling capability |
| **Cyber Ops**<br>**Access**<br>**Cross echelon coordination**<br>**Capability development** | • Persistent data access<br>• Dynamic Navy cyber tool development |

# Industry Help Needed

## BMD Information Dominance Challenges

- Navy / Global Ballistic Missile Defense System capability integration
- Networked fire control-quality sensor data and operational data integration
- Standards-based data, interfaces and links
- Dynamic effects modeling capability
- Closed-network BMD training applications
- End-game definition for left-of-launch non-kinetic effects
- Automation of C2 functions, decision aids, data distribution/sharing
- Manpower and training to increase depth of knowledge and skills