

# Phased Adaptive Approach Overview For The Atlantic Council



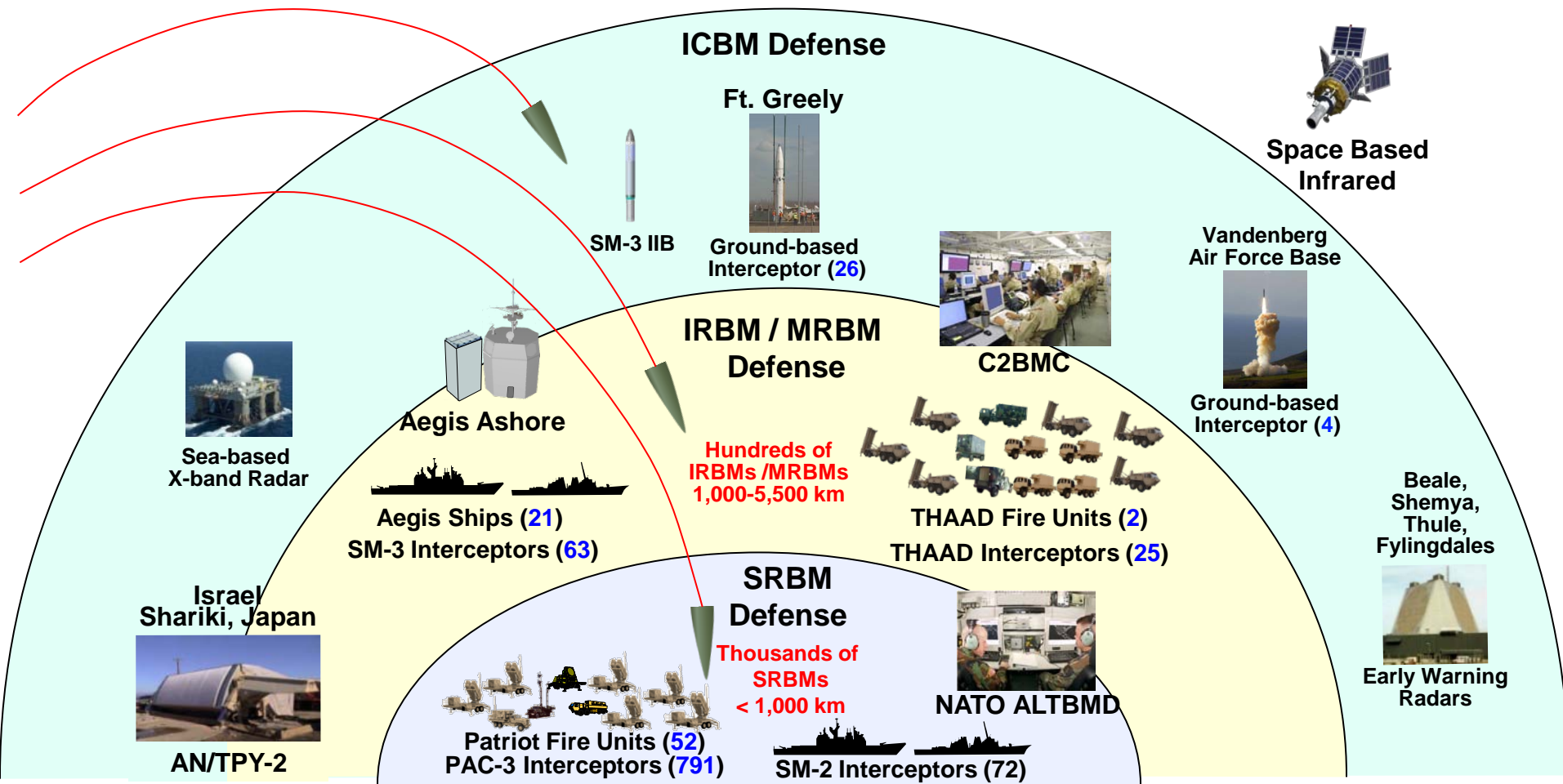
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**Director**  
**Missile Defense Agency**



# Layered Ballistic Missile Defense



SRBM = Short Range Ballistic Missiles  
 MRBM = Medium Range Ballistic Missiles  
 IRBM = Intermediate Range Ballistic Missiles  
 ICBM = Intercontinental Ballistic Missiles



# Phased Adaptive Approach For Europe

## Phase 1 (By 2011)

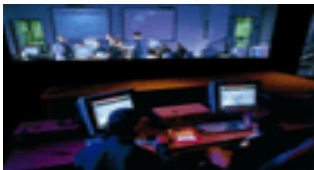
Initial capability against SRBMs, MRBMs, and IRBMs



Aegis BMD 3.6.1 with SM-3 IA



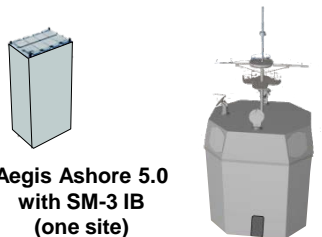
AN/TPY-2 (FBM)



C2BMC AOC Ramstein

## Phase 2 (By 2015)

Robust capability against SRBMs and MRBMs



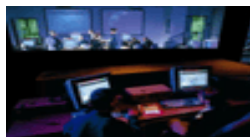
Aegis Ashore 5.0 with SM-3 IB (one site)



Aegis BMD 4.0.1/5.0 with SM-3 IB



THAAD



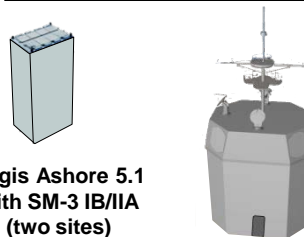
C2BMC Updates

ALTBMD Lower Tier

Enhanced Sensors

## Phase 3 (By 2018)

Robust capability against IRBMs



Aegis Ashore 5.1 with SM-3 IB/IIA (two sites)



THAAD



Aegis BMD 5.1 with SM-3 IIA



PTSS



ABIR



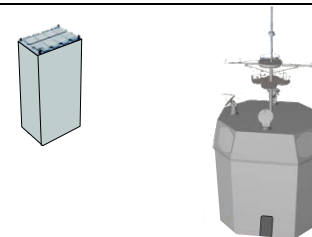
C2BMC Updates

ALTBMD Upper Tier

Enhanced Sensors

## Phase 4 (By 2020)

Early intercept capability against MRBMs and IRBMs; and ICBMs from today's regional threats



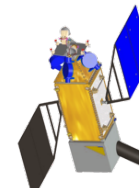
Aegis Ashore 5.1 with SM-3 IIB (two sites)



THAAD



ABIR



PTSS



Aegis BMD 5.1 with SM-3 IIA

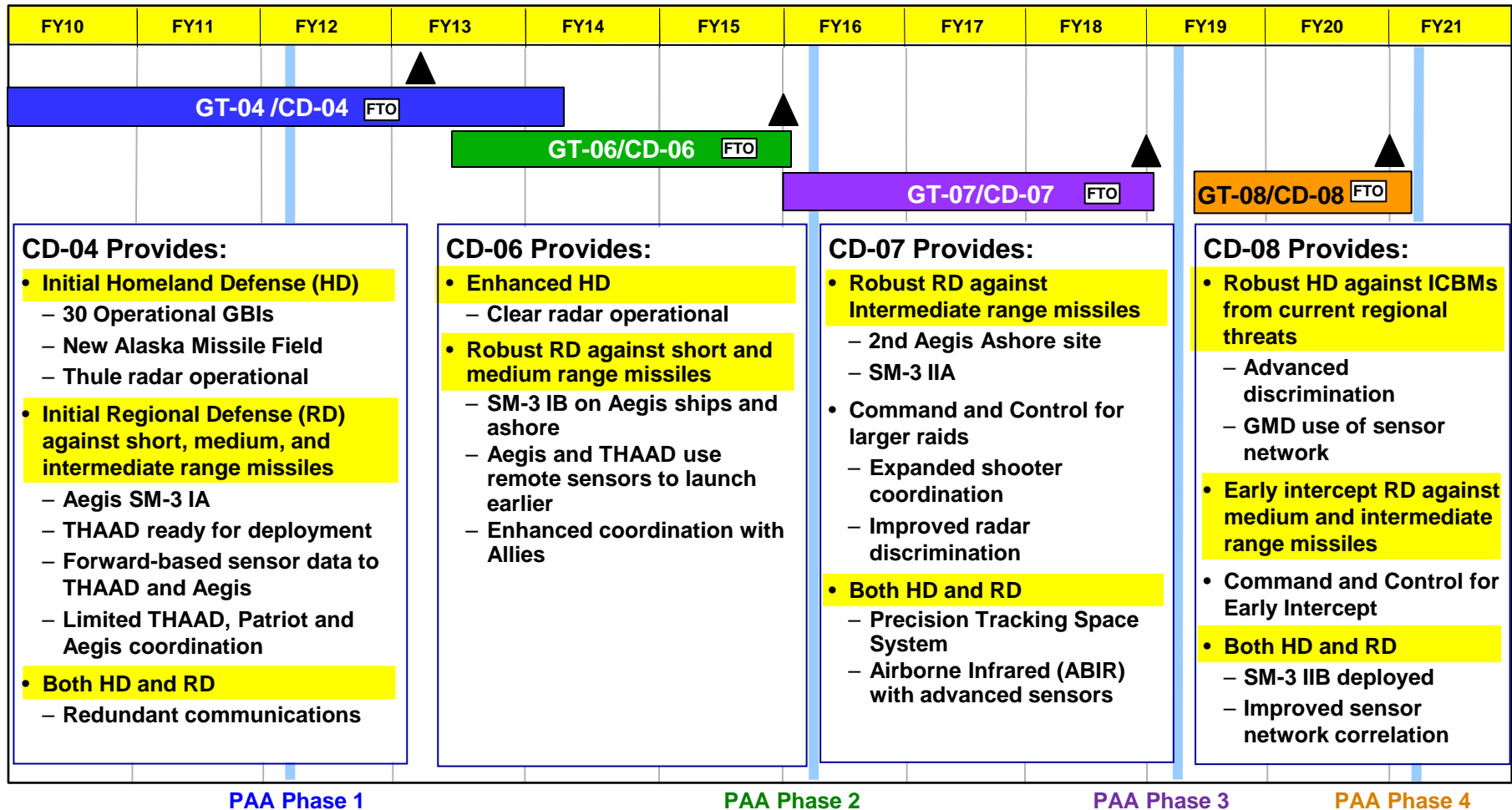
Enhanced Sensors



Enhanced C2BMC



# Missile Defense Capability Development And Integration



GT = Ground Test  
 CD = Capability Delivery  
 FTO = Flight Test Operational

▲ Date of Capability Delivery



# PAA Phase 1

– Initial Capability Against SRBMs and MRBMs –

## Aegis BMD

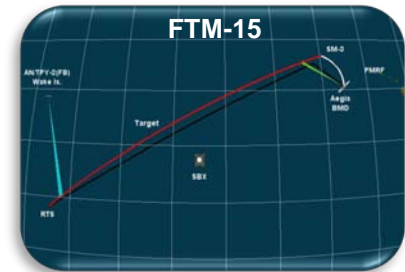
- FY10** – 2 Aegis BMD ships converted and 23 SM-3 Block IAs delivered
- FY11** – 19 SM-3 Block IA deliveries
- SM-3 Block IA intercept of IRBM using AN/TYP-2 radar data



(Aegis BMD 3.6.1 with SM-3 IA)

## THAAD

- FY10** – Battery 1 manned and trained; Battery 2 delivered
- Batteries 3 and 4 production started
- Intercept of lowest altitude SRBM
- FY11** – Army release for fielding
- Intercept of separating SRBM
- Simultaneous intercept of MRBM and SRBM



## Sensors

- FY10** – Accelerated AN/TPY-2 radar refurbishment for deployment



## C2BMC

- FY10** – Verified ability to manage multiple sensors
- FY11** – Upgrade command and control at EUCOM

## Combatant Commander Support

- FY10 and FY11** – U.S. and NATO war games, exercises and technical support for CONPLANS



## Homeland Defense

- FY10** – Thule Upgraded Early Warning Radar
- FY11** – AN/TPY-2 forward-based sensor to South East Europe

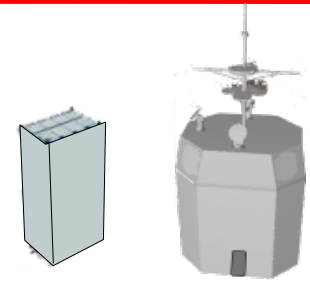


# PAA Phase 2

– Enhanced Systems Against SRBMs and MRBMs –

## Aegis BMD

- FY10** – U.S. simulated intercept of 3 SRBMs / 1 separating
  - Pacific Missile Test Range (PMRF) Environmental Assessment
  - Contract for Aegis Ashore
- FY11** – *Aegis Ashore Deckhouse concept design*
  - *SM-3 Block IB intercept of MRBM*



Aegis Ashore

## THAAD

- FY10** – THAAD interoperability with PATRIOT and AEGIS

## C2BMC

- FY10** – Design software for improved battle management / early intercept
- FY11** – *Contract for PMRF Aegis Ashore communications equipment*

## Homeland Defense

- FY10** – CLEAR Upgraded Early Warning Radar planning summit
- FY11** – *Initiate CLEAR radar upgrade design*



Aegis BMD 4.0.1  
with SM-3 IB



FTM-16 E2



# PAA Phase 3

– Robust Defense Against IRBMs –

## Aegis BMD

*FY11 – Aegis 5.0.1 software modification for greater raid size*

## Sensors

**FY10 – Airborne infrared sensor Analysis of Alternatives**

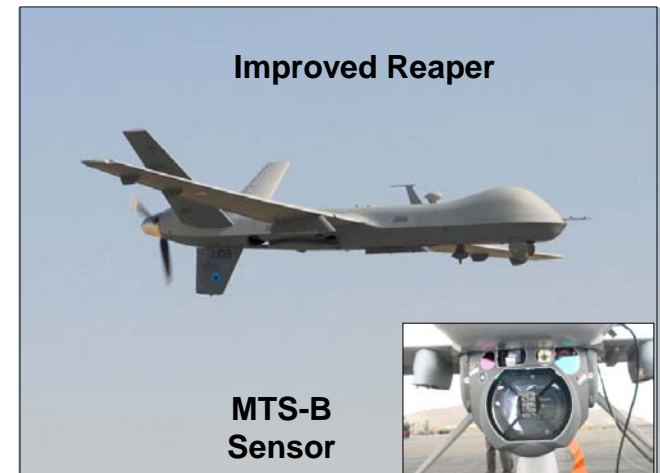
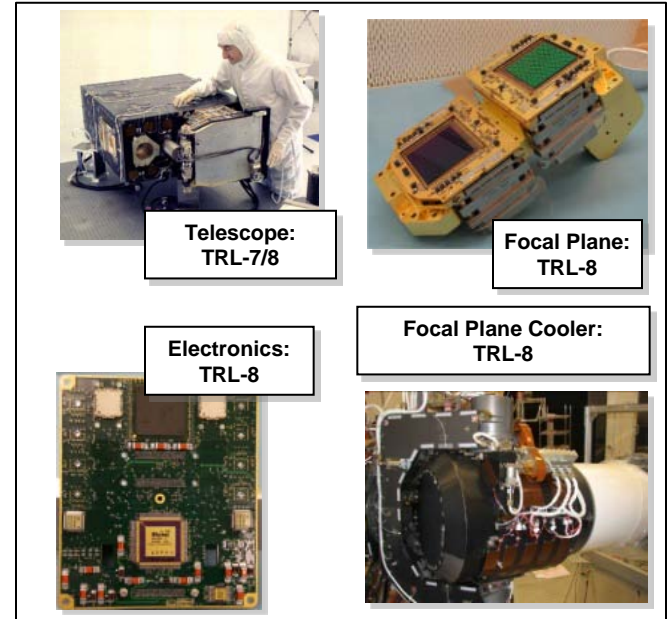
- Airborne infrared real time image processing
- Space Tracking and Surveillance System satellite in flight tests
- Precision Tracking Space System Concept

*FY11 – Source Selection for participation of 5 PTSS contractors*

## C2BMC

**FY10 – Design software to handle large raid sizes**

*FY11 – Demonstrate live Enhanced C2BMC tracks*





# PAA Phase 4

– Early Intercept Capability And Capability Against Potential ICBM Threat As A Secondary Mission –

## Capability Development

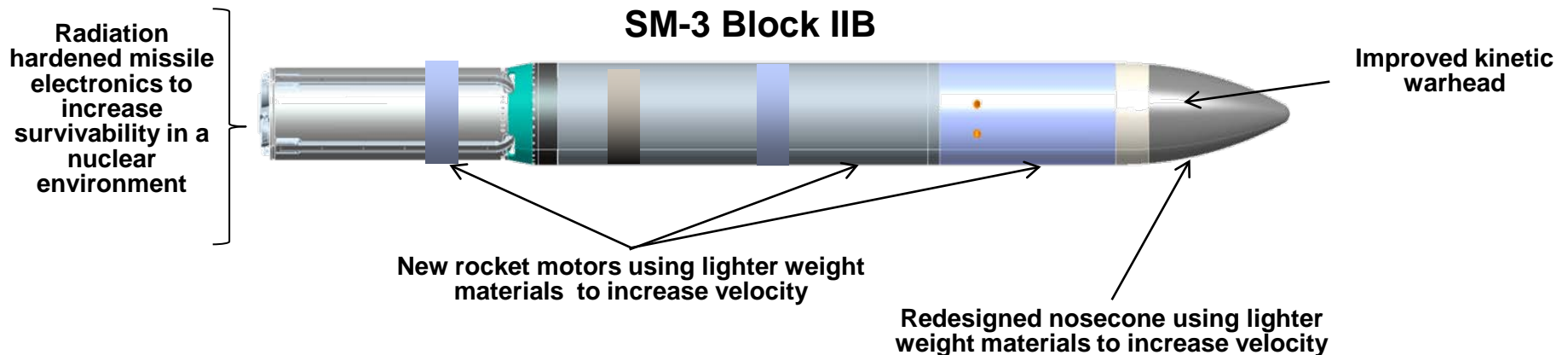
**FY10** – Contract preparation for SM-3 Block IIB definition / program planning

– SM-3 Block IIB System Concept

– USN-MDA feasibility assessment MK 41 Vertical Launcher System for SM3 IIB

**FY11** – *Competitively award 3 SM-3 Block IIB concept definition / planning contracts*

– *Award contracts to multiple vendors to increase maturity of critical SM-3 Block IIB components*

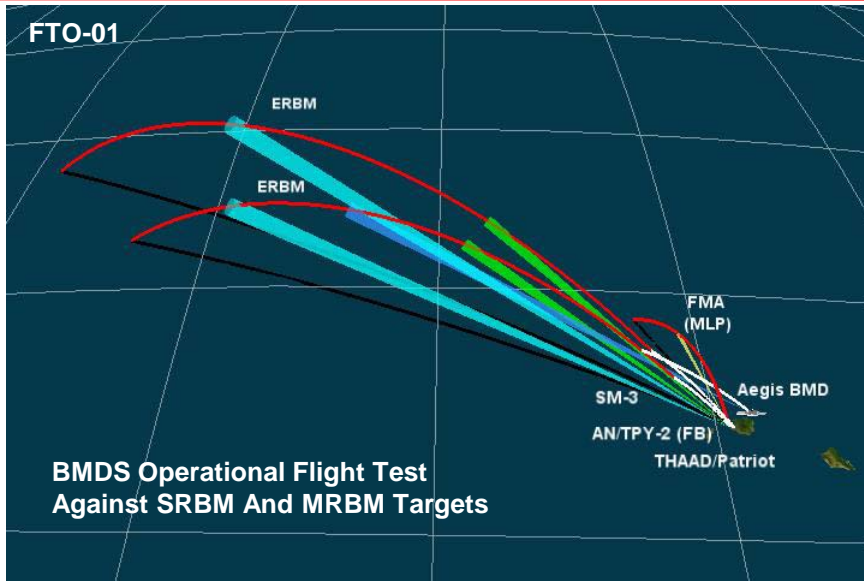






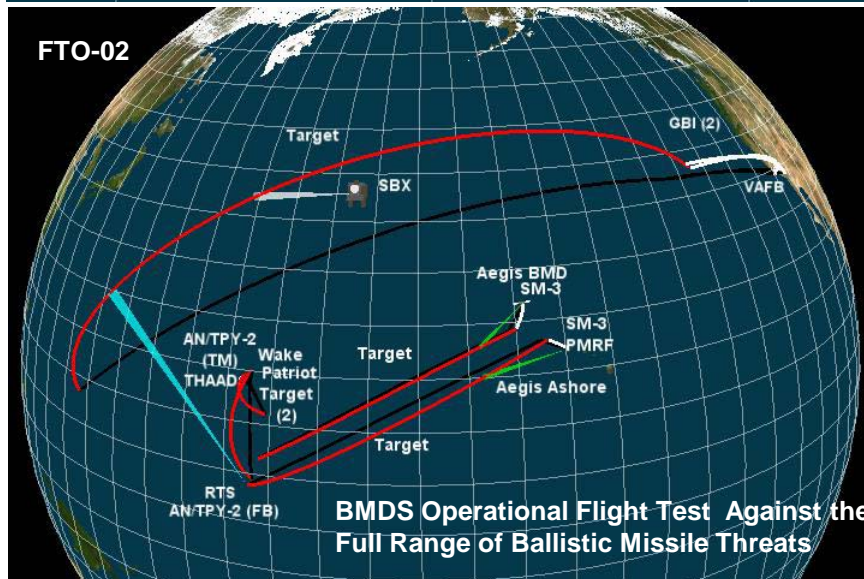
# Operational Flight Tests

– FTO-01 And FTO-02 –



## FTO-01 (FY12)

- **Targets**
  - 2 MRBMs
  - 1 SRBM
- **Cuing Sensor – AN/TPY-2 (FB)**
- **Weapon Systems**
  - Aegis BMD
  - THAAD
  - Patriot



## FTO-02 (FY15)

- **Targets**
  - 1 SRBM
  - 1 MRBM
  - 2 IRBMs
  - 1 ICBM
- **Cuing Sensor – AN/TPY-2 (FB)**
- **Weapon Systems**
  - GMD
  - Aegis Ashore / Aegis BMD
  - THAAD
  - Patriot

