

Mediterranean Basin Defense Initiative (MBDI)



A proposed Italian Initiative
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The Ballistic Missile Threat

- The Rumsfeld Report (July 15, 1998)
 - Existing and Emerging Ballistic Missile Powers with Weapons of Mass Destruction:
 - ICBMs: Russia, China
 - Intermediate Range: North Korea, India, Pakistan, Iran
 - U.S. as a contributor to Proliferation
 - wide dissemination of technical information
 - foreign student training
 - illegal acquisition and use of transferred technology

Rumsfeld report (cont.)

- Key Factors contributing to Proliferation:
 - Increased Competence of and Trade among Emerging Missile Powers
 - Commercial, Foreign Policy or National Security Interests of Existing Powers
 - Readier Market Access to Technology
 - Availability of Classified Information and Export Controlled Technology

Rumsfeld Report (cont.)

- Alternative Ballistic Missile Launch Modes
 - need not be highly accurate
 - need not be safe or highly reliable
 - need only a few, less accurate, less reliable missiles for deterrent / blackmail purposes
 - can easily deploy missiles in other nations (Algeria, Libya, Syria, Byelorussia, Serbia)

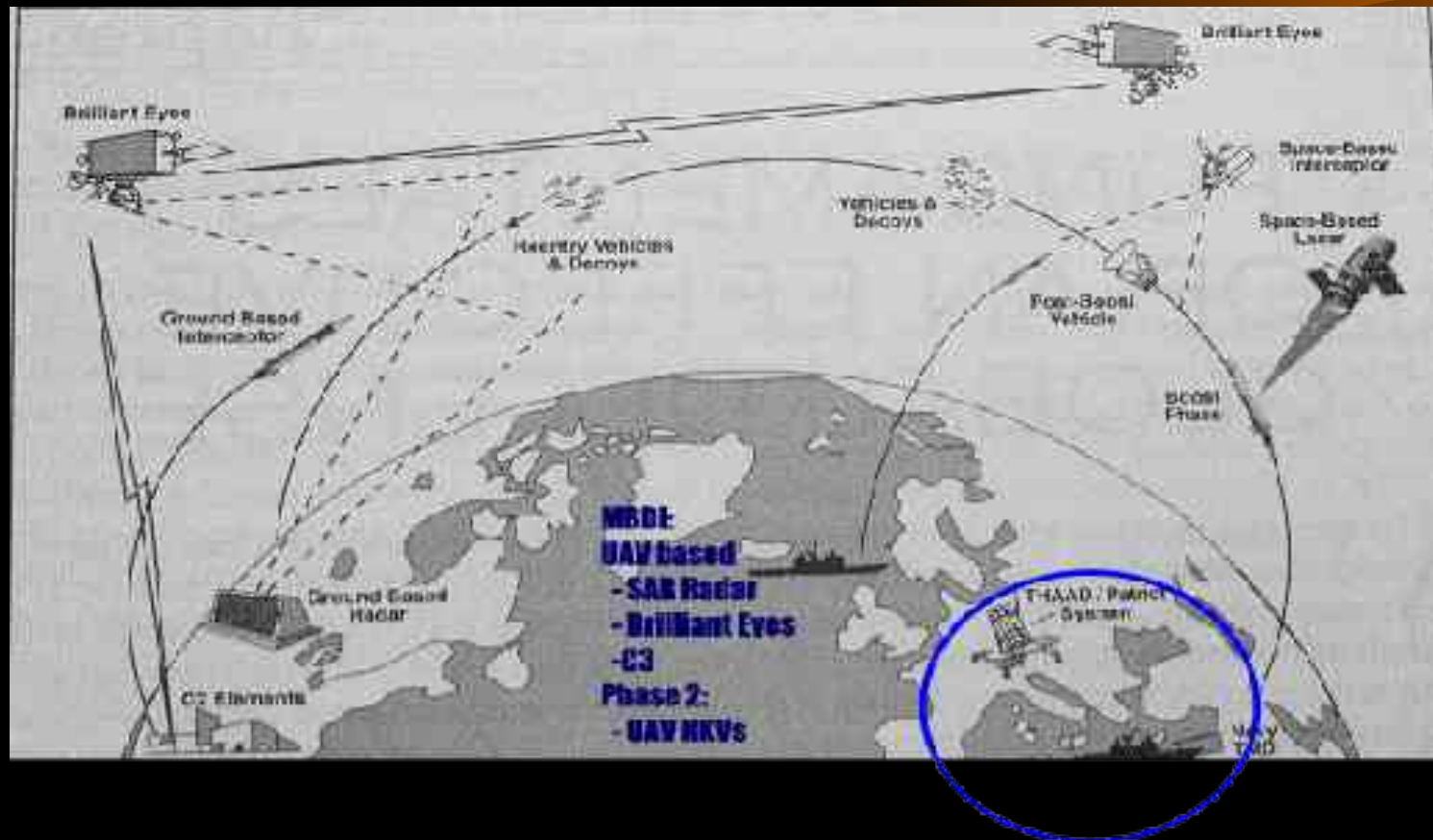
Rumsfeld report (cont.)

- Erosion of Warning
 - Precise forecasts are not possible
 - on tests, production rates, weapons deployed, weapons characteristics, circular error probable
 - Deception possible and intense
 - on nature and magnitude, unexpected development patterns
 - Deployment with much less testing possible
 - deployment of No Dong after only one test-flight

Rumsfeld Report (cont.)

- Conclusions:
 - Ballistic Missiles from the Emerging Countries listed above pose a strategic threat to the USA
 - This is NOT a distant future threat
 - Foreign assistance is pervasive, enabling and often the preferred path
 - Will have the means to strike the USA within 5 years (10 years in the case of Iraq)
 - During several of these years the US may not be aware of such a decision

Regional and Global BMD Complementarity



The Failure of the US on Non Proliferation

- **No Pre-emptive or Post-facto Strikes**
 - Last serious effort: **Russian First Strikes** against Chinese facilities in September 1969 - veto/counterthreat by USA (Nixon)
 - **Israeli Strikes** against Iraq (1970s)
- **Significant Technology Transfers from US, Russia and China to India and Pak**
- **India-Israeli co-operation since 1980s**

NPT enforcement Options Clinton did not consider

- **Pre-emptive or Post-facto Strikes** against all Indian and Pakistani facilities
- **Probably stopped Israeli-Indian Strike** against Pakistani facilities
- **Total Blockade** of India and Pakistan
 - air and
 - sea-borne
 - all telecommunications

Past uses of Nuclear Power/Threats

- Japan 1945 (Truman)
- Germany 1948 (Truman, Airlift)
- Korea 1953 (Eisenhower)
- Germany 1959 (Eisenhower)
- Failure: 1961 Germany (Kennedy - Wall)
- China-USSR 1969 (Nixon)
- Israel-Egypt 1973 (Nixon, Golda Mayer)

Next Nuclear Capable States

- Ukraine
- Byelorussia, Serbia (through acquisition)
- Switzerland, Sweden, Benelux
- Italy, Germany and Japan (no intent)
- Chechnya (through theft)
- Libya, Algeria, Egypt, Iran, Kasachstan
- Argentina, Brazil, Australia, South Africa, Korea (both), Taiwan

NPT and the Israeli Dimension

- **Clear-cut violation of NPT by US and France**
 - “theft” of original nuclear materials from US to Israel (from 1960s onward)
- **Israeli and South African co-operation**
 - 1979 toleration of “Nuclear Incident” in South Atlantic (US has clear evidence of explosion)
- **1981 bombing of Iraqi Nuclear Reactor**
- **Israeli-Indian co-operation**

The Islamic Bomb: NPT and the NATO Precedent

- **NPT does not apply**
- **Pakistani deployment of Nuclear Weapons
across Islamic Countries**
- **India-Israel nuclear co-operation**
- **US and France have enabled Israeli Nuclear
capabilities**

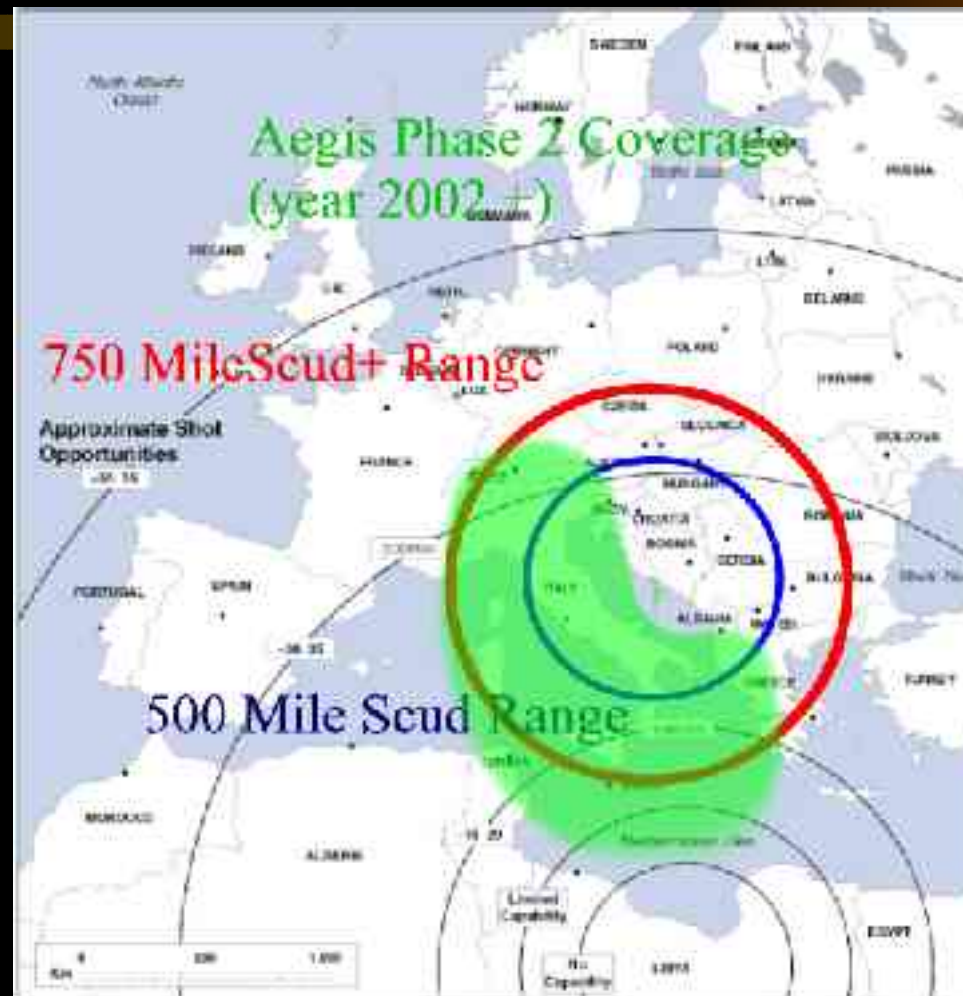
Ballistic Missile Threats to Europe



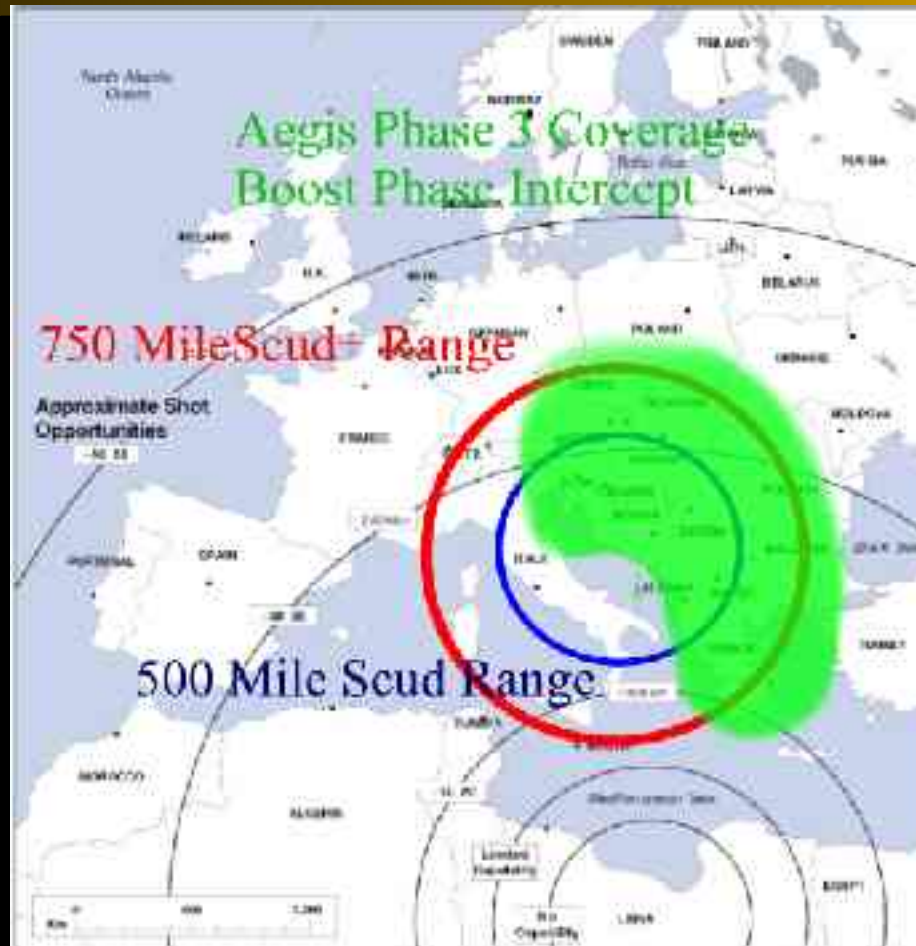
The Scud Threat from the Balkans



Aegis Phase 2 Coverage



Aegis Phase 3 Boost Phase Intercept 2005+ IOC



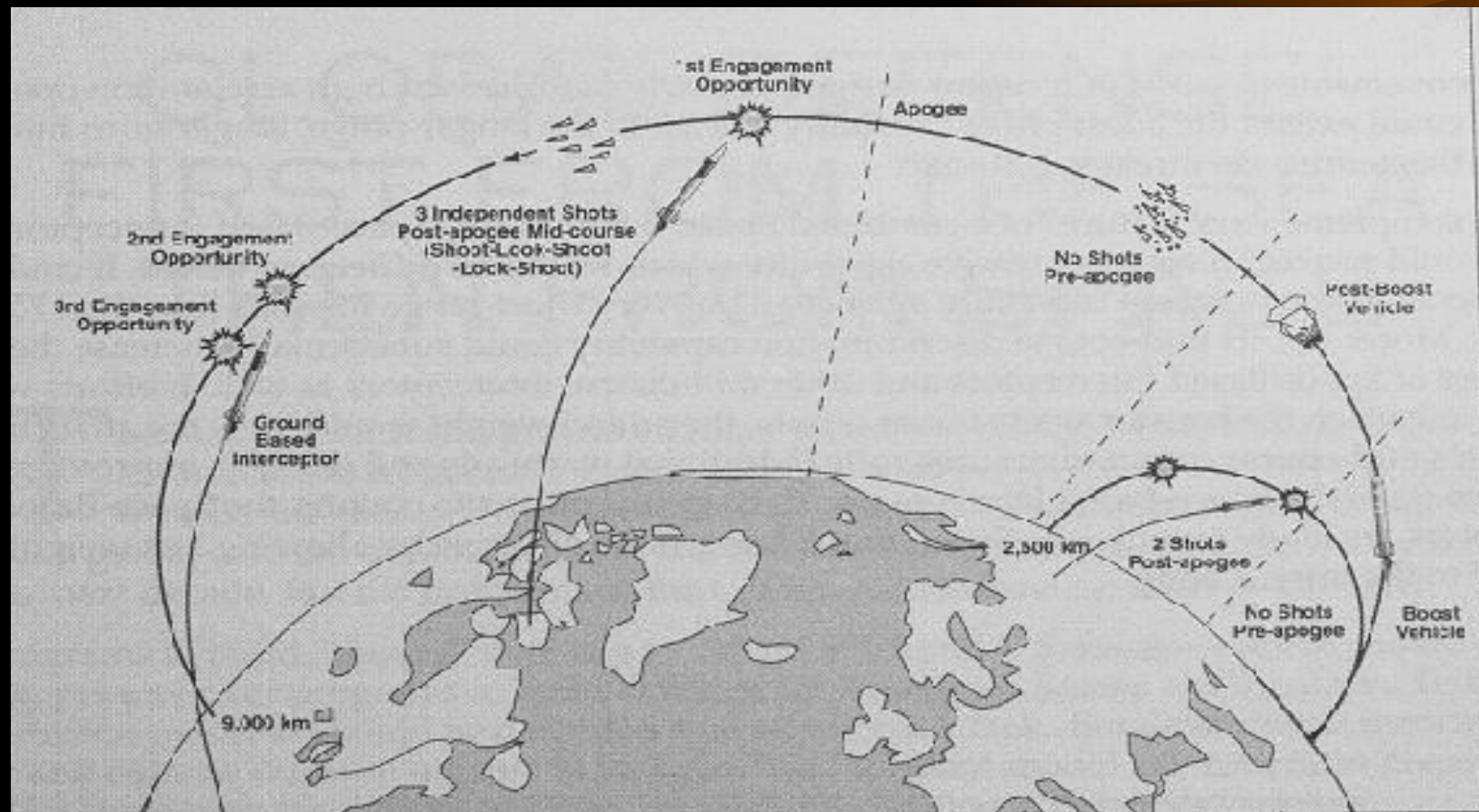
Costs/Pay-off of one Nuclear One MT Strike Impact

- **Damage:**
 - Random Italian target:
 - 10,000+ dead
 - **€ 10+ Billion**
 - Major Area – Rome, Milan: **€ 100+ Billion**
- **Cost to Blackmailer:**
 - **€ 1.5 to 2 Million per shot**
 - **no fear of counterstrike** (by non-nuclear target states)

Phases of Missile Defenses: Boost, Mid-Course, Terminal



Limitations of Terminal Defenses



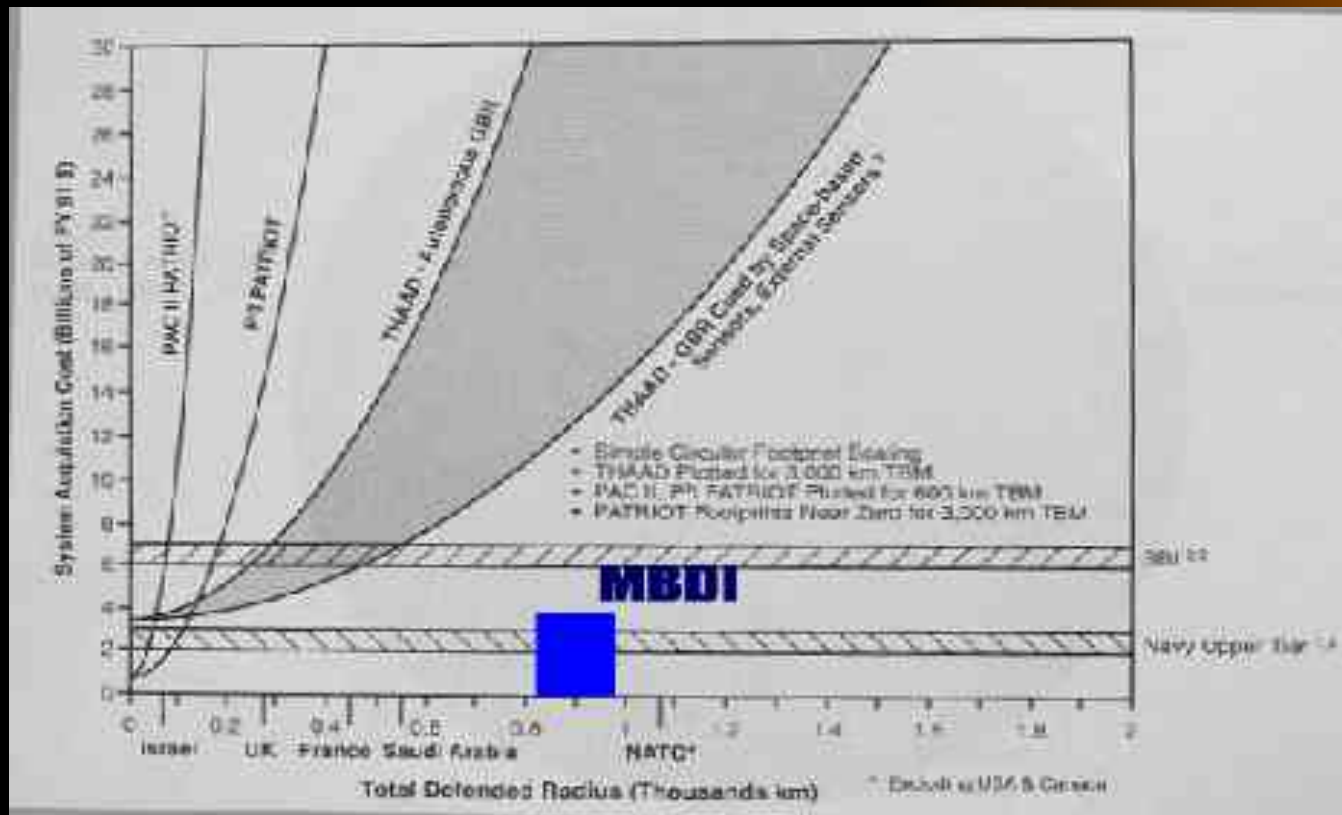
Space based Interceptors (KKVs)

- **Essentially all technology components proven:** e.g. commercial LEO satellites
- **Clementine Mission** (twelve key technology components Space tested, 1994)
- **Ten year deployment and ops costs for 1000 KKV's: \$12 - 15 Billion**

Cost-effectiveness of Boost (Source) Phase Intercept

- **Gives second and third chance** of interception in mid- and terminal phases
- **collateral damage:** on country of origin instead of target country (nuclear, biological, chemical)
- **cost advantage** (next viewgraph) (defends at origin in ALL directions, e.g. Iraq)

Cost Advantage of Boost (Source) Phase Intercept



Phases of MBDI: UAVs, Eyes & Ears, Fast Interceptor

- **Phase I: 1998-2003 Eyes and Ears & C3**
 - AEGIS Seabased Mediterranean
 - AEGIS Landbased Central Europe
 - UAV C3I Eyes and Ears for AEGIS
 - Fast Interceptor Development for UAV
- **Phase II: 2003+ Intermediate & Terminal Intercept**
 - As Phase I and SM2 plus LEAP interceptor
- **Phase III: 2005+ Boost Phase Intercept**
 - Fast Interceptors on UAVs
 - UAV C3I “Eyes and Ears”
 - Space Based KKV's for Global Boost Phase

The Threat to Italy

- **Serb Scuds:** one to two dozen
- **Rogue Military:** Belarus, Ukrainian, Russian
- **Third Country Transfers:** Iraq, Libya, Iran, North Korea, Pakistan, India among others
- **Yeltsin Bouts:** April 1999
- **DUMA statements:** April 1999
- **Nuclear, biological, chemical**

Components of MBDI

- UAVs
 - High altitude (outside civil airspace)
 - Up to 500 kg payload(s)
 - 72 h + loitering capability
- CCC, Eyes & Ears
 - Multispectral, Panchromatic, SAR, Microwave
- High Acceleration (Air to Air+) Interceptor
 - Low mass, 4.5 km+ acceleration, autonomous

Three Phases of MBDI

- Phase I: 1999- 2003
 - Surveillance, Intelligence, CCC
- Phase II: 2003 +
 - Intermediate and Terminal Intercept
- Phase III: 2005+
 - Boost Phase Intercept

- UAV CCC and Ops Center
- Egrett Test & Evaluation of I&CCC
- Predator I and II (5 and 2+)
- Perseus II (3+)
- Theseus: Engine Technology plus 2 Prototypes

Interceptors



- Intermediate and Terminal
 - SM2 and LEAP
- HAIM Air to Air
 - 4.5km+ acceleration
 - Light mass
 - KKV equivalent/compatible

Surveillance & Intelligence

- Multispectral – Stereo
 - Stereo MOMS, Panchromatic,
- SAR
- Microwave
- SIGINT
- Communications Transponders
 - Data, Voice, Video

Clinton – D'Alema Agreement

- March 5th 1999 White House Meeting
 - Full cooperation on all RDT&E
 - Sharing with Allies
- The Urgency of the Balkan Situation and Italy's Central Role and Exposure

MBMDI & ABM Conformance

- MBMDI
 - Aimed at short and medium range Ballistic Missile Threats
 - **ABM “Conformance” Code:**
 - **For duration of ABM treaty regime**
 - **Ballistic Missiles aimed at US will not be shot down**

Technology Components of MBDI

- **AEGIS** Seabased and Landbased (Eastern Alpine Europe)
 - Interim Interceptors
 - Radars, C3I (ship-based)
- **UAVs** at 10 to 30 km altitude
 - 72 to 96 h loitering, geostationary
- **250 to 500 kg payloads**
 - C3Is, Eyes&Ears, Fast Interceptors
 - Identical Interfaces as Space based Systems

Technology Components of MBDI

(cont.)

- **1:1 applicability of Space Technology Payloads** (mass, volume, power)
- Well within **Italian** (European) and **Japanese** (Asian) technology base
- With **High Speed Interceptor** Europe has autonomous Boost Phase BMD capability
- **UAVs are State of the Art**

The AEGIS Up-grade Option

- **A Sea-Based Wide-Area Defense**
- **Already invested in AEGIS: \$50 Billion**
- **Up-Grade costs: ~ \$1 Billion**
- **deployment of 650 interceptors on 22 AEGIS equipped vessels ~\$2-3 Billion**
- **Limited capability by 2001-3**
- **Fully deployed 2003+**

Advantages AEGIS (cont.)

- **Initially:**
 - upgraded standard surface to air missile
 - limited area defense with **Navy lower tier** system
- **Then:**
 - With **C3I “Eyes and Ears”** from UAVs **true wide area capability** with **Upper Tier Interceptors**: interceptors can be launched immediately upon boost of enemy missile(s)

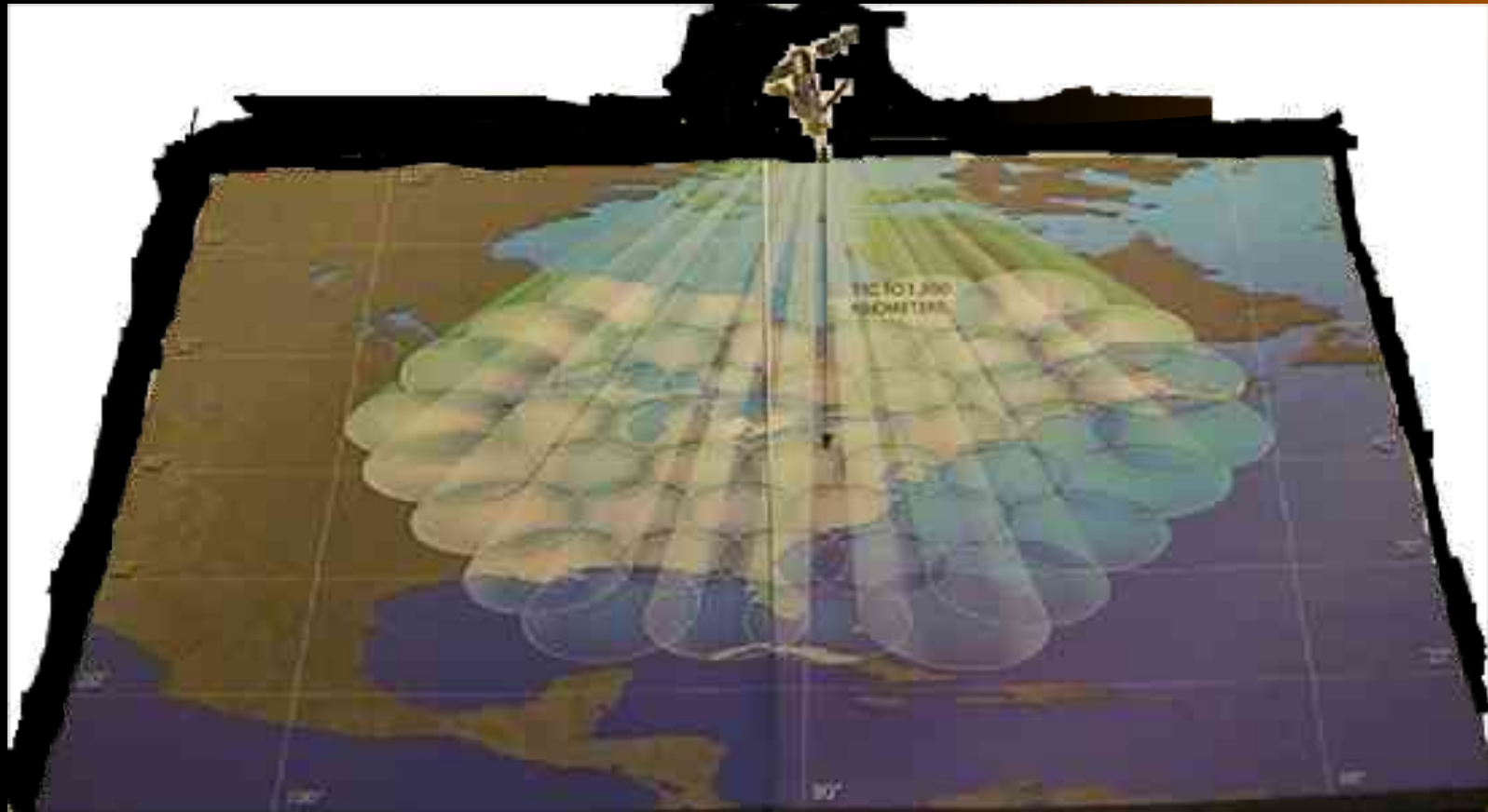
Unmanned Aircraft Vehicles for C3I & “Eyes and Ears”



Transferring Space technology to 20 to 30 km Altitude

- **In Remote Sensing**
 - SARs, MOMSs, Tracking
- **In Communications**
 - Data, Voice, Video, ComInt
- **In Interceptors**
 - KKV's, High Speed Interceptors
- **Autonomous Early Warning Capability**

UAV Cells: IRIDIUM Spotbeams



Two Phased Array Spot Beam Communications System



Italian (European) Advantages in MBDI

- Not a party (signatory) of the **ABM** treaty
- **purely defensive** capability against weapons of mass destruction delivery
- first significant **Italian** contribution to **European Strategic Defense**
- ideal **Technology Development Co-operation** with **Mediterranean Defense**

Advantages of MBDI (cont.)

- **Deployable Worldwide**
- **Conflict Stabilizing Effects**
 - India-Pakistan, Israel-Iraq, North Korea-Japan
- **Devaluation of Proliferation**
 - India, Israel, Serbia, Iran, Russia, Ukraine
- **Devaluation of Blackmail**
 - by Rogue States, Rogue Armed Forces
 - Rogue Nuclear Submarines

Conclusions



- **Italy and Europe must act now**
- Italy has a unique opportunity to make a **strategic defense contribution**
- **European and Global stabilizing effects**
- **Purely defensive technologies against missile attack/blackmail**
- **Transfers range of Space technologies to effective regional applications**