
BALLISTIC MISSILE DEFENSE

Plan To Coordinate Development And Implementation Of Theater Missile Defense Programs With Allies

BALLISTIC *MISSILE* *DEFENSE* ORGANIZATION

4 APR 94

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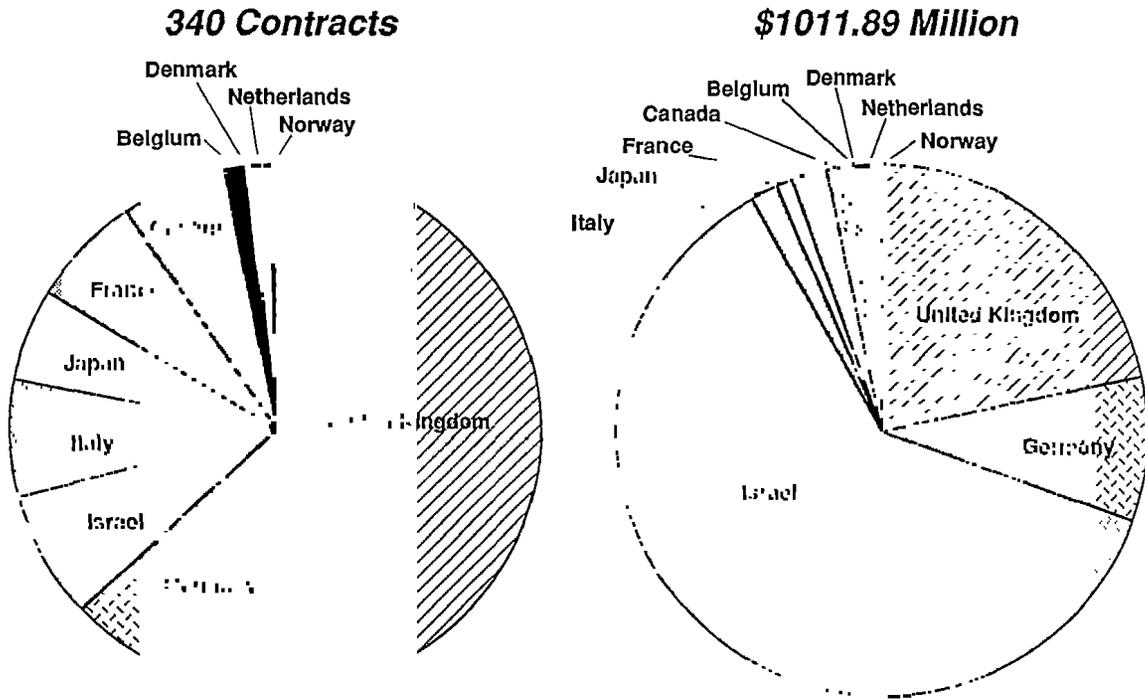
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SCOPE OF PRESENTATION

-  **Background: TMD Allied Participation**
 - **Today's TMD Environment**
 - **U.S. Congressional Perspective**
 - **Plan To Coordinate U.S. TMD Programs With Allies**
 - **Objectives**
 - **Approach**
 - **Underway Now, Near / Mid Term, Far Term**
 - **Summary**

FOREIGN PARTICIPATION



MAJOR BMDO COST SHARE COOPERATION ARRANGEMENTS WITH ALLIES

| Country | Program | \$ In Millions Value | U.S. / Ally Funding (Approximate) |
|-------------|--|-------------------------|--------------------------------------|
| UK | Data Fusion | 26.00 | 42% / 58% |
| UK | 2 Flight Trials | 65.00 | 59% / 41% |
| UK | Extended Air Defense Test Bed | 19.20 | 58% / 42% |
| UK | Artificial Intelligence | 3.50 | 80% / 20% |
| Israel | Arrow Experiment | 158.00 | 80% / 20% |
| Israel | Arrow Continuation Experiments (ACES) | 322.00 | 72% / 28% |
| Israel | System Engineering And Integration | 3.15 | 75% / 25% |
| Israel | Theater Missile Defense (TMD) Test Bed | 33.00 | 72% / 28% |
| Israel | TMD Test Bed Enhancement | 5.20 | 80% / 20% |
| Israel | TMD Test Bed Experiment Program | 6.00 | 50% / 50% |
| Israel | Hypervelocity Launcher Program | 4.06 | 75% / 25% |
| Israel | Boost Phase Intercept (BPI) | 5.7 | 75% / 25% |
| Japan | Western Pacific Architecture Study | 6.50 | 90% / 10% |
| France | Free Electron Laser (FEL) MOA | TBD | TBD |
| Netherlands | Hypervelocity Gun Test | 17.25 | 30% / 70% |
| SHAPE | EADTB | 32.3 | 59% / 41% |
| France | EADSIM | .68 | 35% / 65% |

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U.S. POLICY ON ALLIED PARTICIPATION IN TMD PROGRAMS

FY 94 National Defense Authorization Act

- **Allied Nations Are Encouraged To Participate In, Or Increase Participation In, Cooperative U.S. TMD Programs, Particularly Those Allied Nations That Would Benefit The Most From Deployment Of TMD Systems**
- **The U.S. Is Encouraged To Participate In Cooperative TMD Efforts Of Allied Nations As Such Programs Emerge**

TODAY'S TMD ENVIRONMENT

- **Allied And Friendly Nations Are More Aware Of Their Vulnerability To Ballistic Missiles**
- **Scope And Complexity Of ATBM Programs Argue For Combining Best Available Technologies**
- **Successful Tests And Technology Demonstrations Will Continue To Confirm Feasibility And Expand Interest And Participation**
- **Refocus Of U.S. Ballistic Missile Defense Program From Global, Space Based Orientation To Theater Missile Defense**
 - **Addresses More Immediate Requirements**
 - **May Afford A More Favorable Political Climate**
- **Declining Defense Budgets Will Promote More Cost Shared Joint Programs, Which In Turn, Will Expand Work Sharing And Opportunities For Domestic And Foreign Industrial Participation**

U.S. CONGRESS FY 94 DEFENSE AUTHORIZATION ACT

Language On Cooperation With Allies On Development Of TMD (Sec 242)

- **Findings**
 - **Deployed U.S. TMD Systems Can Contribute To The Security Of Other Nations**
 - **Cost Of Developing Such Systems Will Be Several Tens Of Billions Of Dollars**
 - **Cooperative TMD Development And Deployment May Reduce Financial Burden And Provide Technical Expertise**
 - **Allies Are Unlikely To Cooperate Unless There Is Meaningful Involvement Including R&D And Production**

- **Plans And Reports**
 - **DoD Should Develop A Plan To Coordinate U.S. TMD Programs With Allies To Avoid Duplication, Increase Interoperability, And Reduce Cost**
 - **A Report Of The Plan Will Have Actions Taken To Implement The Plan, Status Of Discussions With Allies, And Status Of Contributions By Allies**

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OBJECTIVES FOR ALLIED PARTICIPATION

- **Strengthen U.S. / Allied Mutual Security Commitments**
- **Support U.S. / Allied Counterproliferation Policies And Strategies**
- **Help Underwrite A Portion Of The Cost Of TMD Development, Production And Operation**
- **Help Provide Protection For U.S. / Allied Forces**
- **Underpin U.S. / Allied Freedom Of Action In Crisis Situations**
- **Access Foreign Innovative Technologies, Systems And Unique Capabilities, e.g., Penaid's Design**
- **Facilitate Military Ties To Define Common Requirements, Help Ensure Interoperability, etc.**
- **Reduce U.S. / Allied R&D, Procurement And Operating Costs**

APPROACH FOR ALLIED PARTICIPATION

| | <u>Time</u> | <u>Activity</u> |
|---|--------------------|--|
| | Now | <ul style="list-style-type: none"> • Identify And Consolidate Current Studies, Plans, Programs |
| | ↓ | |
| "Build Upon / Improve Existing Capabilities" <ul style="list-style-type: none"> • Incremental Enhancement • Interoperability | Near Term | <ul style="list-style-type: none"> • Pursue Improved Early Warning And Tracking Capability • Pursue Improved Communications / Data Transmission • Improve / Develop Lower Tier Defenses |
| | ↓ | |
| "Qualitative New Capability" "Defense-in-Depth" | Longer Term | <ul style="list-style-type: none"> • Expand / Improve Lower Tier Defenses • Develop / Deploy Area Defense Capability |

APPROACH FOR ALLIED PARTICIPATION NOW

- **Identify And Consolidate Current Studies, Plans, Programs**
 - **National Authorities And International Organizations, e.g., NATO, Have**
 - **Addressed Need For Tactical Ballistic Missile Defense Systems**
 - **Some Nations Already Have Initiated Or Completed Architecture Studies; Feasibility Studies; National Requirements For I-HAWK Replacement, PATRIOT Upgrades And Other Improvements In Early Warning, Command, Control And Communications**
 - **Bilateral Discussions And Multinational Meetings, e.g., NATO Ad Hoc Working Group On EAD / TMD, Are Ongoing To Harmonize Requirements, Identify Cooperative Opportunities**

APPROACH FOR ALLIED PARTICIPATION NEAR / MID TERM

- **Pursue Improved Early Warning And Tracking Capability**
 - **Delineate All Current Early Warning Capabilities**
 - **Identify U.S. And Allied Ground / Sea Based Theater Sensor Capabilities And Modifications For U.S. / Allied Integration And Provide Improved Missile Detection And Tracking For A Particular Region. Consider**
 - **U.S. AEGIS AN / SPY-1 Radar**
 - **Forward Deployed Ground Based Sensors, e.g., AN / TPS-59, FPS-117**
 - **Other National Or Alliance Air Defense / Missile Defense Surveillance Systems**
 - **Pursue Possible Modification Of Airborne Surveillance Systems, e.g., E-3 AWACS**
 - **Determine Adequacy Of Current Air Defense BM/C³ Systems And Planned Improvements, Such As NATO Airspace Command / Control System (ACCS), Standard Message Formats, Message Protocols**
 - **Identify Evolutionary Command And Control Concepts, e.g., Navy Cooperative Engagement Concept (CEC), And Their Potential For Integration Into Alliance Procedures**

- **Improve / Develop Lower Tier Defenses**
 - **TPS-59 / HAWK Upgrades To Achieve Interim And Point Defense Capability Against Short Range TBM Threat**
 - **Near Term Improvements For PATRIOT PAC-2, Planning For PAC-3 To Improve Accuracy And Increase Battle Space**
 - **Incorporating AEGIS Standard Missile Block IVA, Together With CEC, Into New Air Defense Frigates**

 - **Incorporating AEGIS Standard Missile Block IVA. Together With CEC. Into**

APPROACH FOR ALLIED PARTICIPATION FAR TERM

- **Expand / Improve Lower Tier Defenses**
 - **Build On Near / Mid Term Achievements To Further Enhance Lower Tier Capabilities**

- **Develop / Deploy Area Defense Capability**
 - **Develop Upper Tier, Wide Area Defense Capability, e.g., THAAD-like Systems, Necessary To Counter More Advanced Theater Missiles For Both**
 - **Defense-in-depth Of Military Assets**
 - **Territorial Defense**

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SUMMARY

- **International Community Recognizes The Need For Anti-tactical Ballistic Missile Defense**

- **U.S. DoD, Through BMDO, Has Established A Sound Plan To Enable Evolutionary Improvement Of National Capabilities**
 - **BMDO Is Fully Engaged In International Discussions On Collaborative Opportunities**

 - **Actions Are Being Taken By International Community To Resolve Deficiencies In Response To The Threat**

- **Allied Participation In The Past Has Been Significant; Continued Participation Will Ensure Improved Missile Defense Systems At Reduced Cost And With Mutual Benefits**

BENEFITS