



STRATEGIC DEFENSE INITIATIVE ORGANIZATION

CORPORATE PLAN

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EXECUTIVE SUMMARY

The Corporate Plan represents the Strategic Defense Initiative Organization's (SDIO) vision and framework to successfully implement its mission under a dynamic worldwide political and economic environment, as evidenced by recent events in the Soviet Union and Middle East. SDIO requires a flexible yet focused approach to attain its mission; namely, to research, develop, acquire, and deploy systems and technologies which provide ballistic missile defense to include Global Protection Against Limited Strikes (GPALS) and follow on systems.

In accomplishing this mission, SDIO will pursue the following short and long term goals:

- Short Term:**
- (1) Develop for deployment an interim National Missile Defense (NMD) system.
 - (2) Develop for deployment an enhanced Theater Missile Defense (TMD) system.
- Long Term:**
- (1) Develop for deployment a GPALS system.
 - (2) Develop for deployment GPALS follow-on systems as necessary.

SDIO has consistently demonstrated the ability to address rapidly changing requirements. However, SDIO also recognizes the continued need to strive for excellence through quality leadership and a responsive program. The subgoals defined in the Corporate Plan address both current and future requirements as follows:

- Implement a unified and effective acquisition strategy for Strategic Defense Initiative (SDI) programs
- Conform to SDI program mandates
- Effectively manage compliance and definition of SDIO efforts within the framework of the Anti-Ballistic Missile (ABM) Treaty
- Effectively manage compliance and definition of SDIO efforts within the framework of environmental laws and regulations
- Increase SDIO management efficiency and effectiveness
- Develop a flexible architecture for GPALS

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- **Develop, demonstrate, and employ missile defense technologies efficiently**

Success for SDIO is not generated by satisfying just one of these subgoals. True success hinges on how effectively all of these subgoals are implemented. This Corporate Plan presents strategies to successfully attain each subgoal. It also demonstrates SDIO management's commitment to the mission through a plan of action to meet all mission requirements.

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CORPORATE PLAN

I. INTRODUCTION

The Corporate Plan presents a strategic look at the mission, goals, and direction of the Strategic Defense Initiative Organization (SDIO). It presents a high level framework on which more detailed management decisions and actions can be organized, ensuring that day-to-day activities will be placed in the context of an overall plan and direction. It is meant to be a living document, changing as necessary to reflect changes in the world, economic, political, and technological environment. Because of its strategic nature, plan updates are expected to be infrequent and to reflect only major changes in direction, not the more detailed decisions which are the everyday part of any complex and dynamic program.

The document is organized into five sections. The first section, Introduction, explains the purpose of the Plan and describes the Plan organization. The second section, Mission, describes the reason for the existence of SDIO. It describes what SDIO is to do, for whom, and to what purpose. The Mission is described as a continuous process, that is, the mission statement emphasizes the process and its purpose without specifying or scheduling process outputs. The third section, Goals, describes the planned outputs resulting from the mission process. These Goals are the first corporate decision in executing the Mission, because they describe in concrete terms the results for which the organization is striving. These goals form the basis for all other corporate activities. The fourth section, Subgoals, focuses corporate attention on those activities which must occur to achieve corporate goals. This section of the Plan will be the most dynamic, because the Subgoals emphasized will be those in which strategic corporate action must occur. The final section of the plan presents Strategies. These strategies will be keyed to the attainment of each of the emphasized subgoals. The strategies are presented at a high level; in most cases, significant additional analysis will be required to determine an appropriate strategy implementation. This analysis and implementation is more appropriately contained in lower level planning documents.

II. MISSION

1. Background

The Strategic Defense Initiative Organization (SDIO) mission has evolved over time. This section provides an overview of that history to provide an audit trail to the current mission.

DoD Directive 5141.5, dated June 4, 1987, states the mission and charter of SDIO in the following way:

"SDIO shall manage and direct the conduct of a vigorous research program, including advanced technologies, that will provide the basis for an informed decision regarding the feasibility of eliminating the threat posed by nuclear ballistic missiles of all ranges, and of increasing the contribution of defensive systems to U.S. and Allied security. The program shall be carried out in full consultation and where appropriate, with participation of our Allies. The program shall be conducted in compliance with existing treaty obligations and will emphasize non-nuclear technologies."

The original mission and charter is assumed to be modified by President Bush's Global Protection Against Limited Strikes (GPALS) direction:

"I have directed that the SDI Program be refocused on providing protection from limited ballistic missile strikes, whatever their sources. Let us pursue an SDI Program that can deal with any future threat to the United States, to our forces overseas, and to our friends and allies." (State of the Union address, January 29, 1991)

The Missile Defense Act (MDA) of 1991 (part of the National Defense Authorization Act, H.R. 2100, passed November 13, 1991) sets out the missile defense goal of the United States:

"It is the goal of the United States to:

- 1. deploy an anti-ballistic missile system, including one or an adequate additional number of anti-ballistic missile sites and space-based sensors, that is capable of providing a highly effective defense of the United States against limited attacks of ballistic missiles;**
- 2. maintain strategic stability; and**
- 3. provide highly effective theater missile defenses (TMDs) to forward-deployed and expeditionary elements of the Armed Forces of the United States and to friends and allies of the United States."**

"As an additional component of the overall goal of protecting the United States against the threat posed by ballistic missiles, Congress endorses such additional measures as:

- 1. joint discussions between the United States and the Soviet Union on strengthening nuclear command and control, to include discussions concerning the use of permissive action links and post-launch destruct mechanisms on all inter-continental-range ballistic missiles of the two nations;**
- 2. reductions that enhance stability in strategic weapons of the United States and Soviet Union to levels below the limitations of the Strategic Arms Reduction Talks (START) Treaty, to include the down-loading of multiple warhead ballistic missiles; and**
- 3. reinvigorated efforts to halt the proliferation of ballistic missiles and weapons of mass destruction."**

2. Mission

The following summarizes the SDIO mission:

The SDIO shall research, develop, acquire, and deploy systems and technologies which provide ballistic missile defense and which include the Global Protection Against Limited Strikes (GPALS) System and follow-on systems. The SDIO shall encourage and support U.S. activities which enhance strategic stability.

Thus the mission of SDIO is two-fold: to develop for deployment an actual system providing GPALS capabilities, and conducting research necessary to that end; and to conduct research to support GPALS follow-on systems, which will be developed and deployed, as necessary, to respond to changing world conditions.

III. GOALS

In accomplishing its mission, the Strategic Defense Initiative Organization (SDIO) will pursue the following short and long term goals:

- | | |
|--------------------|--|
| <u>Short Term:</u> | (1) Develop for deployment an interim National Missile Defense (NMD) system. |
| | (2) Develop for deployment an enhanced Theater Missile Defense (TMD) system. |
|
 | |
| <u>Long Term:</u> | (1) Develop for deployment a Global Protection Against Limited Strikes (GPALS) system. |
| | (2) Develop for deployment GPALS follow-on systems as necessary. |

These goals are presented pictorially in Figure 1 and are discussed in the following paragraphs.

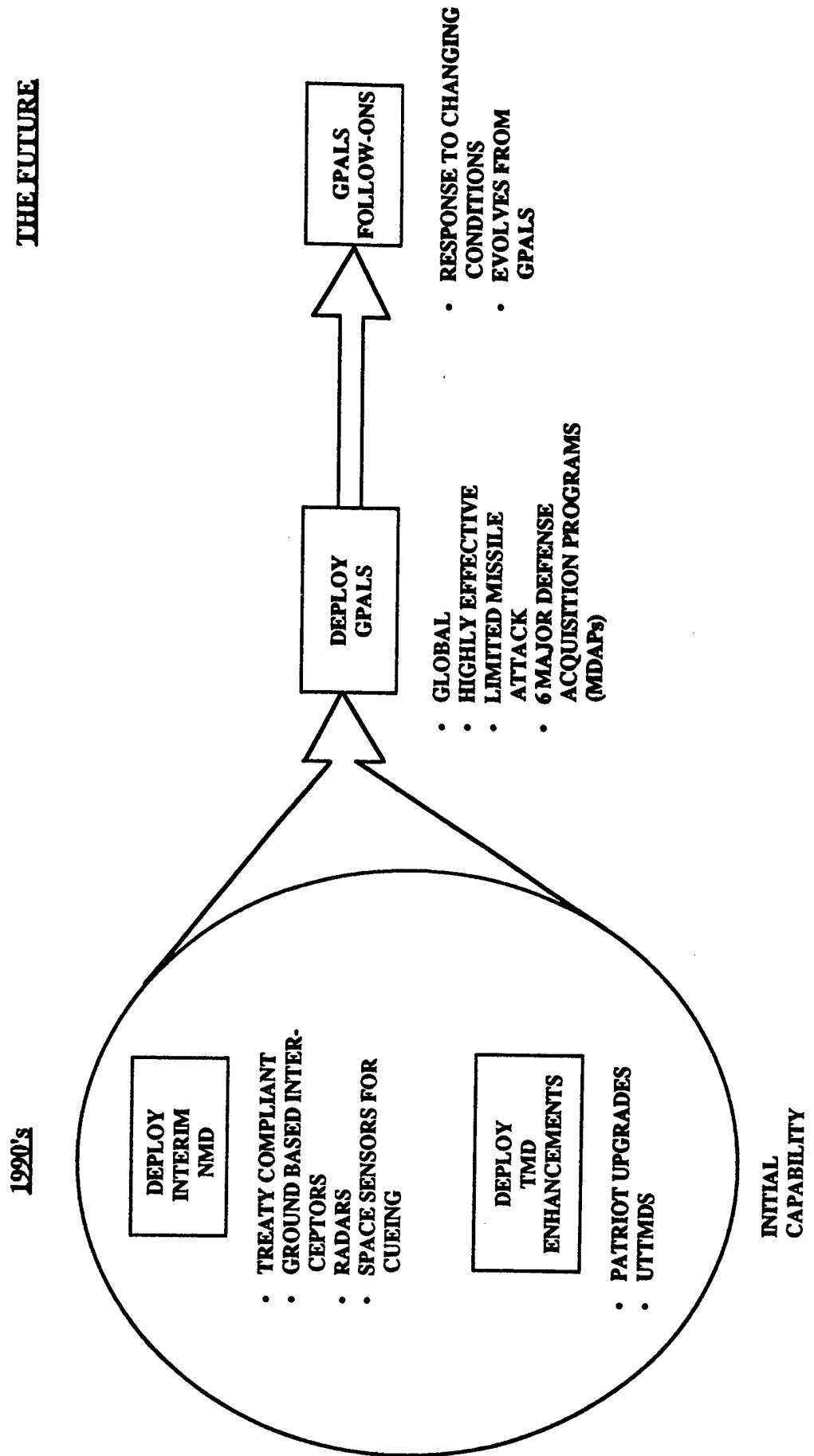
1. Develop for Deployment an Interim National Missile Defense (NMD) System

SDIO will develop for deployment a cost effective, operationally-effective, and Anti-Ballistic Missile (ABM) Treaty-compliant ballistic missile defense system at a single site as the initial step toward deployment of the GPALS system. The interim system will include ground based interceptors, fixed ground-based anti-ballistic missile, battle management radars, space based sensors capable of cueing and providing initial targeting vectors, and other sensor systems not prohibited by the ABM Treaty.

2. Develop for Deployment an Enhanced Theater Missile Defense (TMD) System

SDIO will develop for deployment upgrades to the PATRIOT system and will develop the Upper Tier Theater Missile Defense System (UTTMDS) for deployment. PATRIOT upgrades include an increase in the PATRIOT missile velocity and the implementation of a more sophisticated fire control radar. UTTMDS includes the Theater High Altitude Air Defense Missile (THAAD) and the TMD Ground Based Radar (TMD-GBR). It provides a large area defense capability which complements the more localized defense provided by PATRIOT. THAAD is a theater ground based interceptor that will destroy theater/tactical ballistic missiles at high altitude.

Figure 1. SDIO Goals



TMD-GBR is a ground based sensor that supports the THAAD by providing search, tracking, and discrimination capabilities.

3. Develop for Deployment a Global Protection Against Limited Strikes (GPALS) System

SDIO will develop for deployment a system that provides Global Protection Against Limited Strikes (GPALS). This system will include surface- and space-based elements capable of detecting, tracking, and intercepting ballistic missile of all ranges. National Missile Defense (NMD) elements will be developed for deployment in space and in the continental United States. Theater Missile Defense (TMD) elements will be capable of rapid worldwide deployment and will be interoperable with missile defense systems of other nations. The SDIO is responsible for the development, implementation, deployment, and integration of the Major Defense Acquisition Programs (MDAPs) making up the GPALS System.

4. Develop for Deployment GPALS Follow-on Systems As Necessary

SDIO will design the GPALS System using a flexible architecture which permits enhancements to be made in a cost effective manner. SDIO will conduct research on technologies which have the greatest potential to enhance GPALS performance. As world conditions warrant, SDIO will develop for deployment follow-on GPALS systems with capabilities that exceed the requirement to provide a highly effective defense against limited ballistic missile attack.

IV. SUBGOALS

In order to achieve the goals discussed in Section III, the Strategic Defense Initiative Organization (SDIO) has identified the following subgoals:

- (1) Implement a unified and effective acquisition strategy for Strategic Defense Initiative (SDI) programs
- (2) Conform to SDI program mandates
- (3) Effectively manage compliance and definition of SDI efforts within the framework of the Anti-Ballistic Missile (ABM) Treaty
- (4) Effectively manage compliance of SDI efforts within the framework of environmental law and regulations
- (5) Increase SDIO management efficiency and effectiveness
- (6) Develop a flexible architecture for Global Protection Against Limited Strikes (GPALS)
- (7) Develop, demonstrate and employ missile defense technologies efficiently.

These subgoals have been derived based on consideration of the present and future SDI environment, legal, political and economic trends, and the expectations of organizations and individuals directly affected by the SDI program. The relationship between these subgoals and the previously presented organizational goals is depicted in Figure 2. The following paragraphs discuss each of these subgoals in greater detail.

1. Implement a Unified and Effective Acquisition Strategy for SDI Programs.

The GPALS architecture is a system-of-systems encompassing battle management/command, control and communications and multiple interceptor and sensor elements. The sequence of interrelated tasks associated with acquisition of this complex system-of-systems is presented in Figure 3. Even at this high level, it is clearly challenging both from a performance and schedule perspective. The DoD acquisition process is not tailored to acquiring architectures as a whole. In order to foster inter-element tradeoffs and make individual acquisition decisions within an overall GPALS context, adjustments and adaptations of the DoD acquisition process is required. The acquisition process is further complicated by the tri-service involvement in developing individual elements, the upgrades required in previously developed systems must be integrated with GPALS, and the short timelines associated with initial deployments. Consequently, the first

Figure 2. Relationship Between Goals and Subgoals

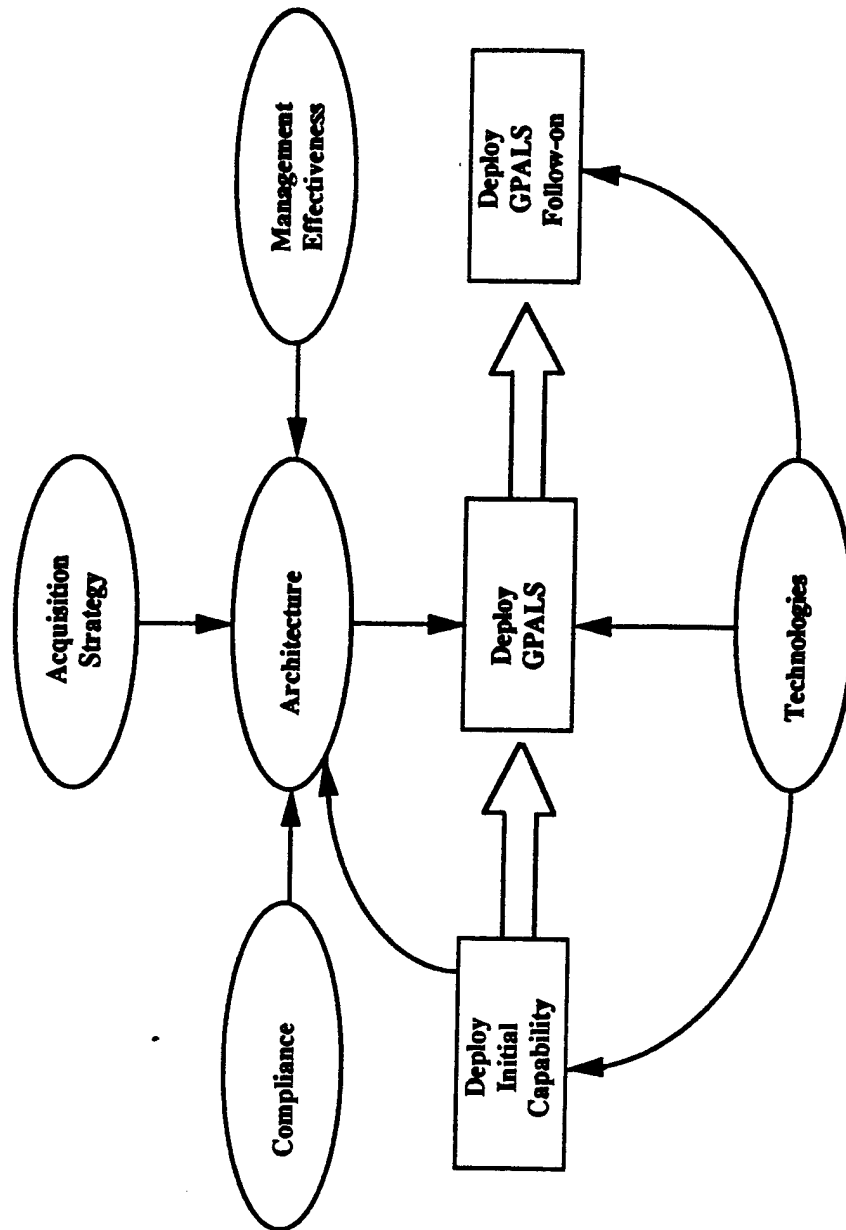
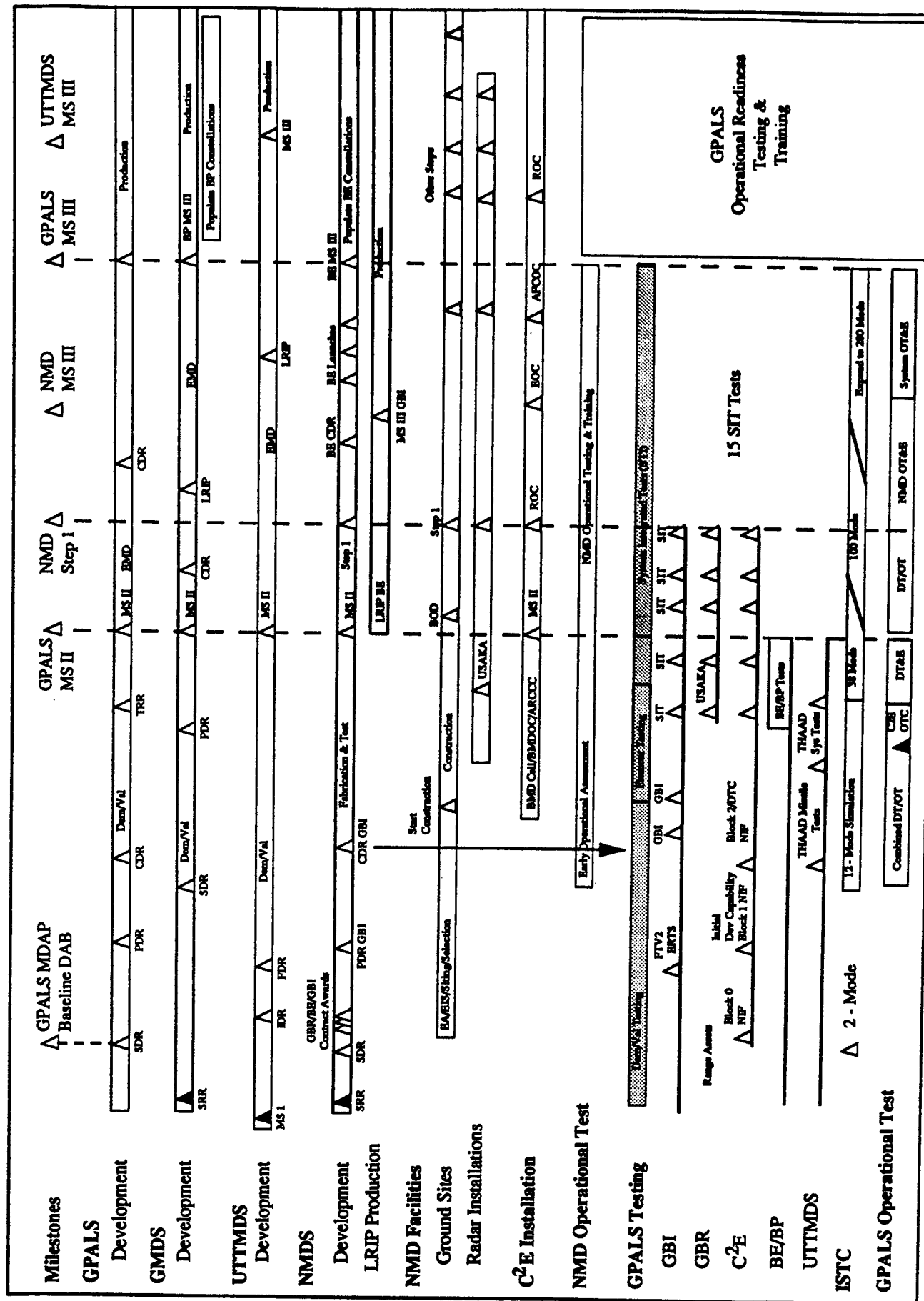


Figure 3. GPALS System Interrelated Acquisition, Test, and Fielding Sequence



subgoal is to develop and implement a unified and effective acquisition strategy for present and future SDI programs.

2. Conform to SDI Program Mandates.

The mandates imposed on the SDI program discussed earlier include:

1. The President's State of the Union Address, January 29, 1991;
2. Congressionally mandated 1991 Missile Defense Act; and
3. The Department of Defense Directives (e.g., 5141.5 dated June 4, 1987).

President Bush refocused the SDI program to provide protection from limited ballistic missile strikes against future threat to the United States, to our forces overseas, and to our friends and allies.

The U.S. Congress is responsible as an organization to the public to ensure effective expenditures are made toward the security of the United States. It exercises its power of the purse through the imposition of program requirements, timelines, and funding. Failure to conform to these mandates and other Congressional needs will have a significant impact on future funding. The SDI program must adhere to this direction and focus.

Congress holds the Department of Defense responsible for the effective development, integration, and deployment of the GPALS system and follow-on efforts. SDIO, working as the agent of the DoD, has the requirement to ensure that these mandates are fulfilled. SDIO is responsible for providing to Congress timely technical, budget, and schedule recommendations and alternatives, in order to provide the basis for informed policy deliberations. As DoD's agent, SDIO also has the responsibility to provide DoD with information to communicate program progress and also to comply with DoD directives, policies, and procedures.

The second subgoal is for SDIO to effectively conform to these mandates. In doing so, SDIO will help ensure future funding and organizational support to facilitate the achievement of SDI's mission and goals.

3. Effectively Manage Compliance and Definition of SDIO Efforts Within the Framework of the ABM Treaty.

Compliance with the ABM Treaty is a specific requirement of the 1991 Missile Defense Act (MDA). Congress has directed the actions of the Secretary of Defense regarding initial deployment as follows in §233 (b) (2):

"The Secretary shall develop for deployment by the earliest date allowable by the availability of appropriate technology or by fiscal year 1996 a cost-effective, operationally-effective, and ABM Treaty-compliant anti-ballistic missile system at a single site..."

Article III of the ABM Treaty places the following limitations on the deployment of ABM systems and components:

- (A) Within one ABM system deployment area having a radius of 150 kilometers and centered on the party's national capital, a party may deploy: (1) No more than 100 ABM launchers and no more than 100 ABM interceptor missiles at launch sites, and (2) ABM radars within no more than six ABM radar complexes, the area of each complex being circular and having a diameter of no more than three kilometers, and
- (B) Within one ABM system deployment area having a radius of 150 kilometers and containing ICBM silo launchers, a party may deploy: (1) No more than 100 ABM launchers and no more than 100 ABM interceptor missiles at launch, and (2) Two large phased-array ABM radars comparable in potential to corresponding ABM radars operational or under construction on the date of signature of the treaty in an ABM system deployment area containing ICBM silo launchers, and (3) No more than 18 ABM radars each having a potential less than the potential of the smaller of the above-mentioned two large phased-array ABM radars.

Article V, Section (1) of the ABM Treaty says:

- (1) Each party undertakes not to develop, test or deploy ABM systems or components which are sea-based, air-based or mobile land-based.

While the ABM Treaty is a complex document, these paragraphs suggest prohibition against testing of any space-based defenses and strict limitations on the number and type of ABM sites.

The Department of Defense has developed elaborate definitions and rationalizations to work around the treaty language on testing. This works for some individual elements of the program. However, no strategy has been developed to deal with all issues relating to SDI. If tests succeed, and the U.S. decides to deploy either selected elements or the entire SDI system, conflicting issues between GPALS and the ABM Treaty will require resolution. The SDIO is committed to honor international treaties. The Defense Department provides interpretations of the ABM Treaty for SDIO. These supply guidelines to follow as each milestone is reached. The SDIO is responsible for structuring plans to provide the technical basis for treaty review and changes in treaty language, as appropriate and when requested by DoD.

Thus, the third subgoal to be achieved by SDIO is to manage the compliance and definition of SDI efforts within the framework of the ABM Treaty.

4. Effectively Manage Compliance of SDI Efforts Within the Framework of Environmental Laws and Regulations.

The environment has become an increasing concern to the American public. Attention to compliance and stricter enforcement of environmental laws and regulations is likely to increase over the next few years. The construction that will be necessary to deploy SDI technology will impact the environment, wherever it occurs. The National Environmental Protection Act of 1970 requires an Environmental Impact Statement for any construction involving federal funds. All impacts on the physical, cultural, and human environment must be assessed and documented before a decision is made to proceed. The requirements imposed by the National Environmental Protection Act could present obstacles that may affect testing and deployment schedules for GPALS. Thus, the fourth subgoal of SDIO is to effectively manage the compliance of SDI development and test efforts within the framework of environmental laws and regulations.

5. Increase SDIO Management Efficiency and Effectiveness.

The goals of fielding an interim NMD and an enhanced TMD are ambitious. Failure to meet these goals will open SDI up to increased Congressional and public criticism and will have an impact on the funding available for the full GPALS system. Success in accomplishing these goals, on the other hand, will increase public confidence in SDIO's capability, potentially leading to increased support for development and deployment of GPALS. The funding available for SDI in the near term is unlikely to exceed present projections and may decrease. Factors such as the current national deficit, the end of the Cold War, and the growing pressures for domestic spending will continue to act against increasing the SDIO budget. The SDI position as one of the largest defense programs makes it a prime candidate for cuts.

SDIO is thus faced with the challenge of managing a program of increased urgency and complexity in a restricted budgetary environment. This environment demands that SDIO do more with less. In addition, due to the fluctuation in budgets and requirements, SDIO must develop a strategy which provides a financial stability for a core set of capabilities with pre-identified alternatives to accommodate increases or decreases in SDIO budgets. As a result, the fifth subgoal to be achieved is to increase SDIO management efficiency and effectiveness.

6. Develop a Flexible Architecture for GPALS.

It is difficult to predict next month's strategic environment, let alone the environment five to ten years hence. However, plausible future threats do exist that GPALS can help mitigate (e.g., the threat of third world launched ballistic missiles). Future events will drive GPALS deployment paths to limited or more extensive inventories, alternative siting of interceptors or sensors, with or without space based interceptors. The architecture must include options that can quickly respond to a changing strategic environment. Thus, the sixth subgoal identified is to manage GPALS development through the creation and sustainment of a flexible architecture which can respond to changing future conditions.

7. Develop, Demonstrate and Deploy Missile Defense Technologies Efficiently.

In the constrained budget environment resulting from large national deficits, reductions in defense spending, and pressure for increased domestic spending, wise use of funds

in developing technologies remains critical. Technology efforts must span a spectrum of purposes to achieve SDIO goals:

- (1) Support to GPALS element development
- (2) Develop enhancements to first-generation systems
- (3) Provide response to and helping dissuade emergence of new offensive countermeasures
- (4) Explore potential breakthroughs which could affect system effectiveness and cost
- (5) Develop basic technologies to support GPALS follow-on systems.

Successful technology prioritization and resource allocation will be key to attainment of SDIO goals. Consequently, the seventh and last subgoal is to develop, demonstrate and deploy missile defense technologies efficiently.

V. STRATEGIES

This section presents corporate strategies for attaining the subgoals described in the preceding section. They are organized by subgoal, with each of the following paragraphs associated with the strategies for attaining a single subgoal. These strategies are presented at a high level.

1. Implement a Unified Acquisition Strategy for the Strategic Defense Initiative (SDI)

- Plan for incremental deployments within an overall evolutionary architecture
- Plan for rapid prototype fielding within an overall evolutionary architecture (multitrack acquisition approach)
- Develop a management and control framework for acquisition which includes:
 - A Single Global Protection Against Limited Strikes (GPALS) General Manager (GM)
 - Office of the Secretary of Defense (OSD) Defense Acquisition Board (DAB) oversight through multiple Major Defense Acquisition Programs (MDAPs) comprising the GPALS system
 - A Memorandum of Agreement between the Strategic Defense Initiative Organization (SDIO) and the Services which includes element development by the Services and Service GPALS Program Executive Officers (PEO) as deputies to the GPALS GM
 - SDIO input into Service manager ratings
 - Control documents which include:
 - Program Management Agreements (PMAs)
 - Provisional Performance Criteria (PPCs)
 - GPALS Program Management Directives (GPMDs)
- Selective consolidation and integration of element programs by leveraging off of existing or emerging technologies which can be applied to other program elements thereby reducing cost while still providing deployment options

- Development of systems which aid in reducing post deployment support costs (e.g., Computer Aided Logistics System (CALS), Strategic Defense Development System)

2. Conform to SDI Program Mandates (Timelines, Funding, Program, and Policy)

- Develop system requirements for a contract performance management and control system
- Implement systems to more closely monitor and track contractor and executing agent performance and programmatic
- Ensure Provisional Performance Criteria are developed for each GPALS element and that the PPCs directly support SDI goals defined in the Missile Defense Act
- Provide to Congress timely technical, budget, and schedule recommendations and alternatives, in order to provide the basis of informed policy deliberations
- Track and monitor individual GPALS elements' performance, cost, and schedule status and their conformance to the Missile Defense Act

3. Comply with Anti-Ballistic Missile (ABM) Treaty

- Continue to monitor, anticipate, and respond to changes in treaty requirements
- Consider alternative GPALS systems which do not employ space-based assets
- Assess impact on GPALS development of the timing of space-based interceptor asset insertion in GPALS
- Promote changes in treaty requirements that permit deployment of fully effective GPALS
- Consider alternative GPALS systems based on restrictions of current treaty requirements

- Pursue less restrictive definition of what constitutes test/deployment in compliance with treaty
- Encourage discussions with foreign countries to reduce ballistic missile threat
- Structure plans to provide the technical basis for treaty review and changes in treaty language, as appropriate and when requested by DoD.

4. Comply with Environmental Laws and Regulations

- Develop a comprehensive SDI plan that addresses environmental concerns
- Establish a formal organization or mechanism to establish a consistent approach for each SDI-related environmental issue (e.g., site, weapon fallout)
- Develop tools that will track and document SDI's environmental activities
- Evaluate Research and Development (R&D) efforts in alternative technologies that have less impact from an environmental standpoint
- Assess and rate each GPALS sub-system in terms of compliance with environmental requirements
- Establish liaison with local jurisdictions and state and federal environmental agencies
- Coordinate environmental strategy with other services involved in SDI programs

5. Increase SDIO Management Efficiency and Effectiveness

- Strategies to enhance SDIO's ability to effectively manage the program include:
 - Conduct an organizational assessment
 - Identify inefficiencies in the current organizational structure
 - Define a more responsive organizational structure
 - Implement organizational change
 - Monitor post-implementation
 - Provide training to SDIO personnel to improve skill base - commit funding and management attention:
 - Total quality leadership training
 - Communications effectiveness training
 - Management skills training
 - Provide appropriate management tools to increase management effectiveness (e.g., SDIO Program Information Management System (SPIMS), SDIO Decision Support System (SDSS))
 - Increase communications effectiveness with both internal and external organizations
 - Clarify lines of authority and responsibility
 - Provide greater number of opportunities or regular forums for information exchange
 - Provide incentives for cooperation among GPALS sub-systems
 - Enhance communications capability to allow rapid exchange of information and data between all SDI sites including implementation of a multi-level secure network architecture
 - Develop a responsive information architecture to effectively manage and implement existing and proposed information system initiatives
 - Develop a strategy which provides financial stability for a core set of capabilities with pre-identified alternatives to accommodate increases or decreases in SDIO budgets

6. Develop a Flexible Architecture

- Plan for incremental deployments within an overall evolutionary architecture
- Plan for rapid prototype fielding within an overall evolutionary architecture
- Develop modular sub-systems and components which will permit rapid integration of new sub-systems using standard interfaces
- Ensure tools and infrastructure are in place to maintain existing architecture and evaluate actual and proposed architectural changes
- Develop Battle Management/Command, Control, and Communications (BM/C³) as an integral part of the GPALS architecture
- Promote space-based assets as a critical sub-system within GPALS via active liaison with congressional overseers

7. Develop, Demonstrate, and Deploy Missile Defense Technology Effectively

- Leverage technologies external to SDI through increased awareness and coordination (i.e., symposiums, conferences) with U.S. and foreign industry, other U.S. government programs, and foreign government sponsored programs
- Develop an SDI infrastructure to identify, investigate, and more effectively acquire foreign technology appropriate for GPALS
- Develop an investment strategy for the application of SDIΘ resources to technology development
- Develop a forum for providing SDI technologies, as appropriate, to other DoD departments, federal agencies, and U.S. friends and allies