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Theater Air And Missile Defense Family Of Systems

8th Annual AIAA / BMDO Technology Conference



Brig Gen Richard W. Davis, USAF
Deputy For Theater Air And Missile Defense
Ballistic Missile Defense Organization

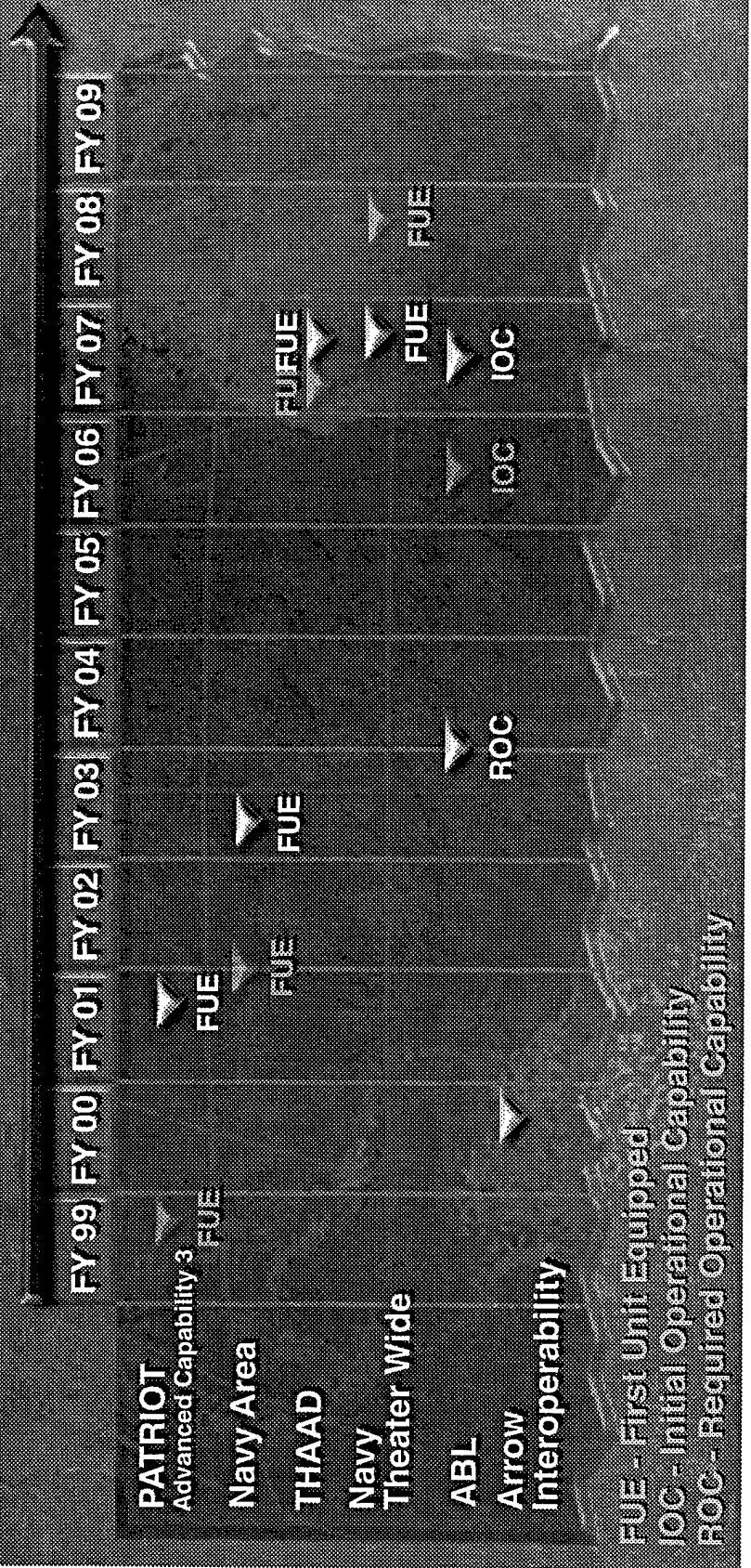
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BMDO'S CHALLENGE...

- Develop An FOS Interoperability Testing Approach That
 - Ensures The TMD Building Blocks "Plug and Flight"
 - Accommodates Time Phased Development Of Systems
 - Verifies FOS Interoperability Throughout Its Life





BMDO STRATEGIC PLAN

- **Mission Essential Task**
“Develop And Enable Deployment Of A Cost-effective And Affordable Interoperable Theater Air And Missile Defense (TAMD) To Meet The Evolving Missile Threat To Deployed U.S. Forces, Friends, And Allies.”
 - **Objective – Show Significant Progress In Satisfying CINCs Warfighting Needs As Identified By The Threshold Values In The CRD**

- **Subobjectives**
 - **Enable Deployment By Helping CINCs Prepare For Current And Future TAMD Operations**
 - **Address TAMD FOS Deficiencies Identified By The Warfighters With Material And Nonmaterial Solutions**



U.S. FOS RATIONALE REMAINS UNCHANGED

Threat Uncertainties

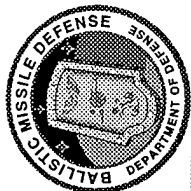
- Range / Altitude
- Quantity (Raid / Campaign / Time On Target)
- Warhead Design (Conventional / WMD)
- Technology (Low Signature / Maneuver / Velocity)

Defense Dynamics

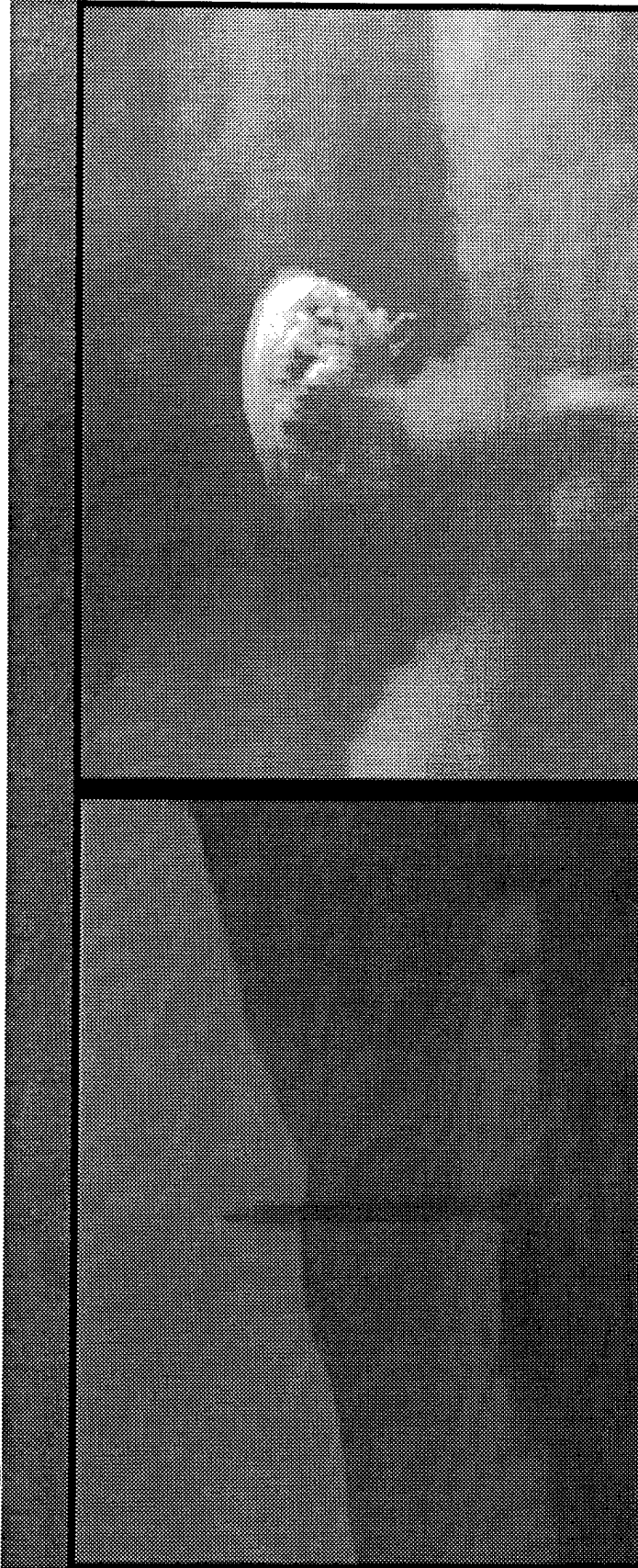
- Layering / Tiering
- Military And / Or Civil Defense
- Joint Coalition Synergies
- No Notice / Short Notice / Build Up

Budget Constraints

- Force Reductions
- Acquisition Goals

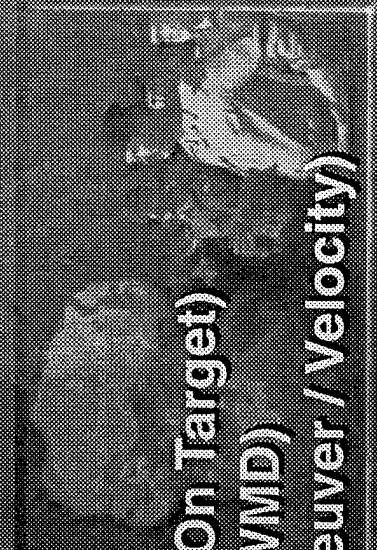


U.S. FoS RATIONALE REMAINS UNCHANGED



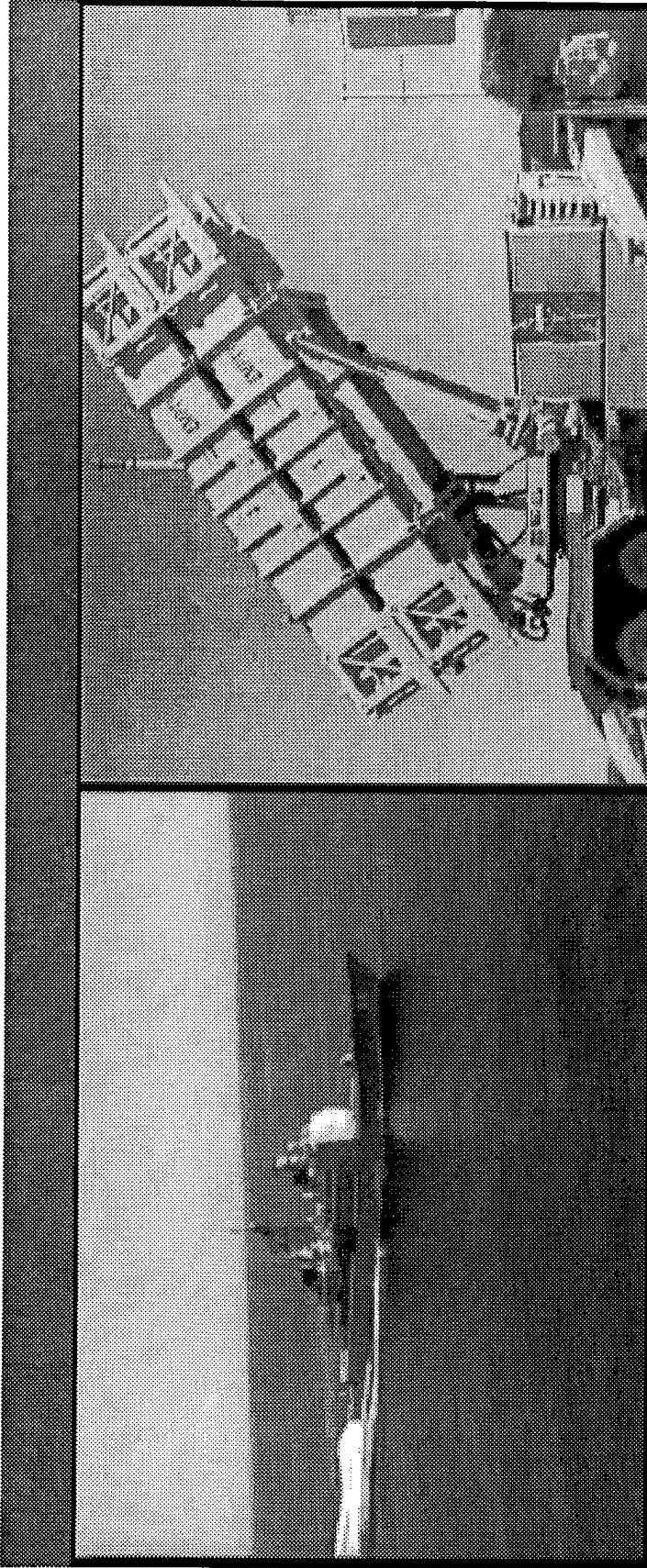
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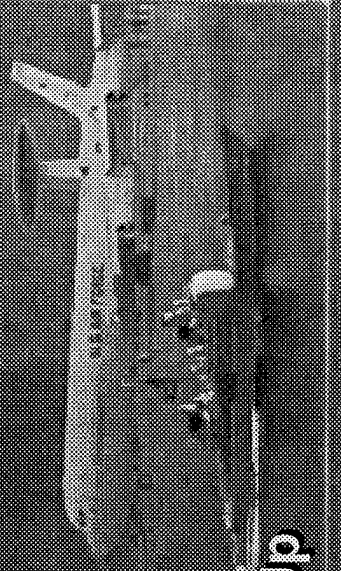


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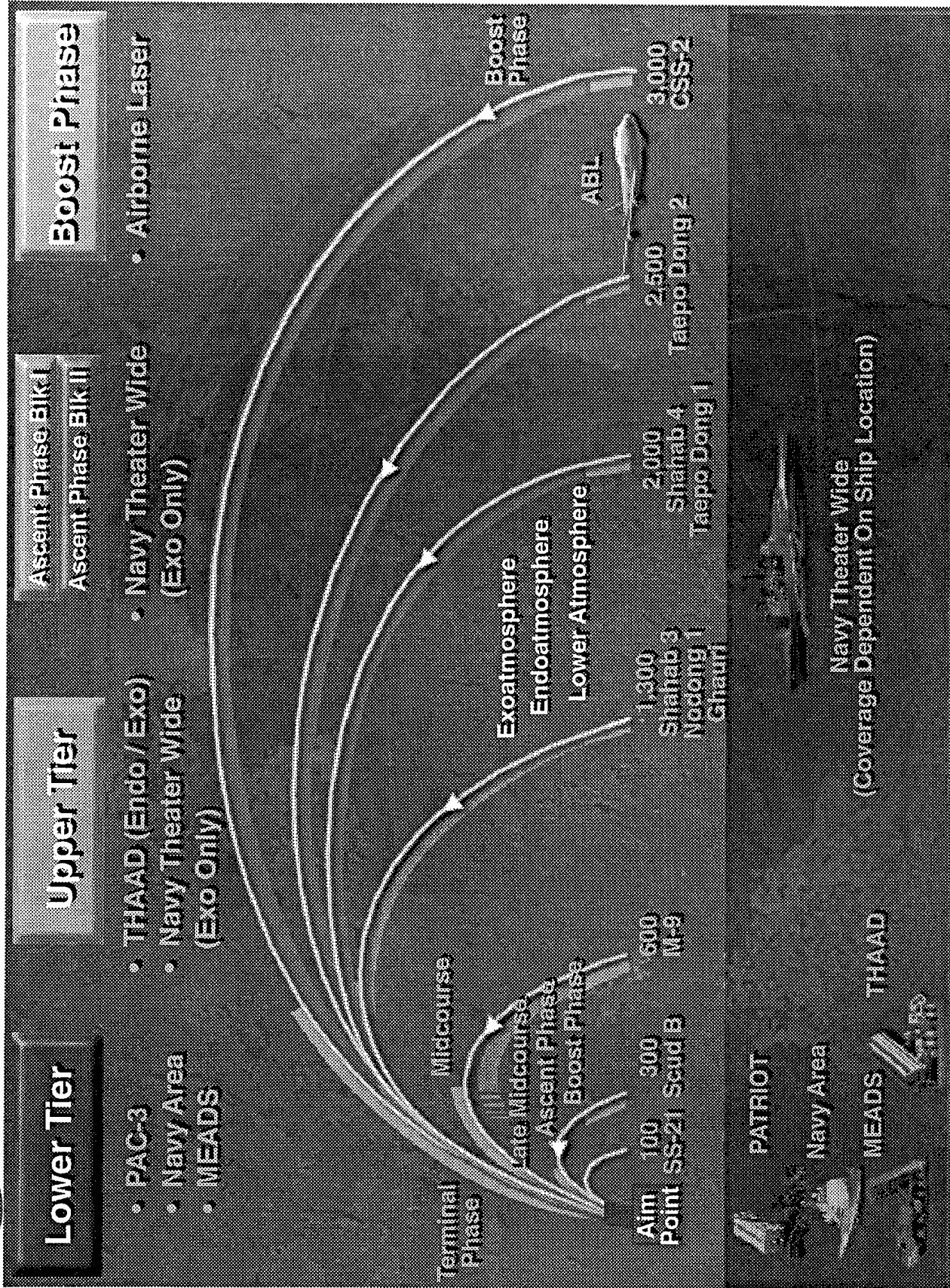
Defense Dynamics

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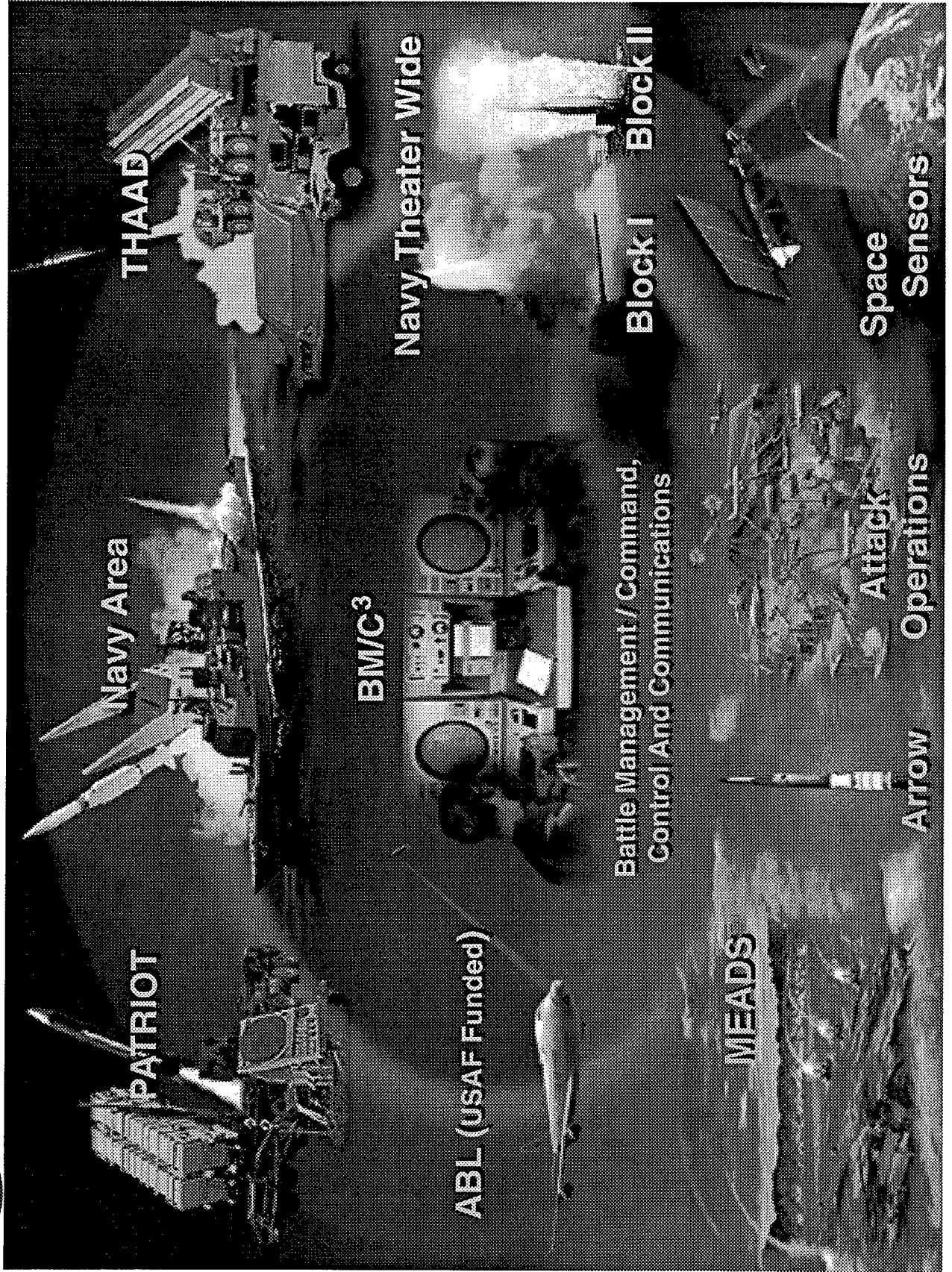


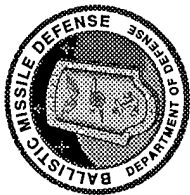
THEATER MISSILE DEFENSE



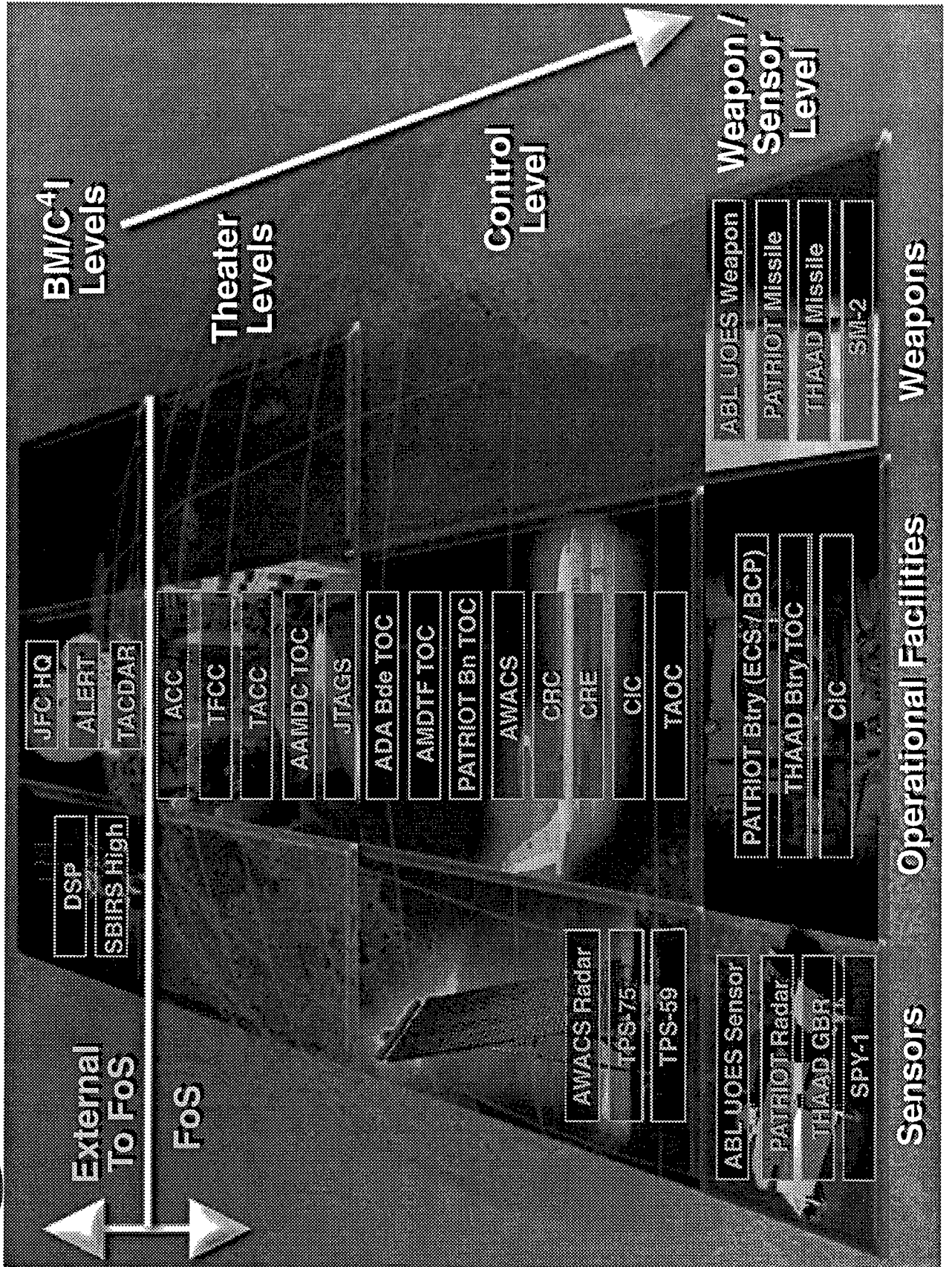


THE TMD FAMILY OF SYSTEMS





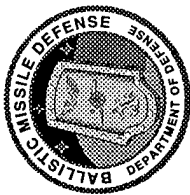
FoS Elements



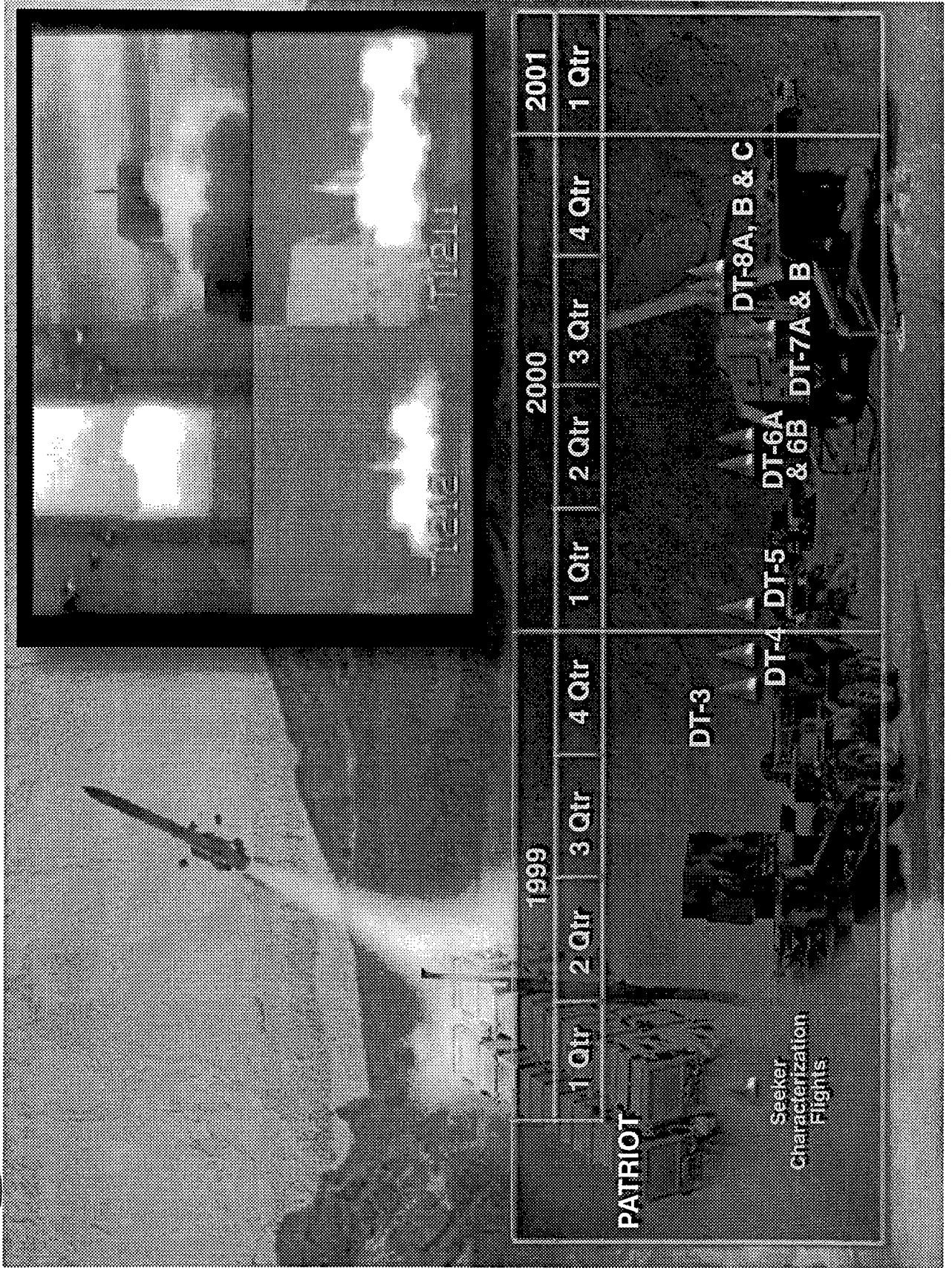


FLIGHT TEST SCHEDULES

	1999				2000				2001
	1 Qtr	2 Qtr	3 Qtr	4 Qtr	1 Qtr	2 Qtr	3 Qtr	4 Qtr	1 Qtr
PATRIOT Seeker Characterization Flight				DT-3	DT-4 DT-5	DT-6A & 6B DT-7A & B	DT-8A, B & C		
Navy Area					CTV-1	CTV-2	FLYBY	TBM 1	TBM 2
Navy Theater Wide									First Intercept Attempt
THAAD				CTV-1A	MSII (1st Opportunity) At Least 3 For 4	FT-13	FTR-1	FTR-2	FTR-3 FTR 4-7
Arrow	FT-09			FT-10 FT-11 FT-12					
	System Development Tests				System Operational Tests				
					Operational Capabilities				
Family Of Systems Events				TCMP 3A					SITII (IMPACT 98)

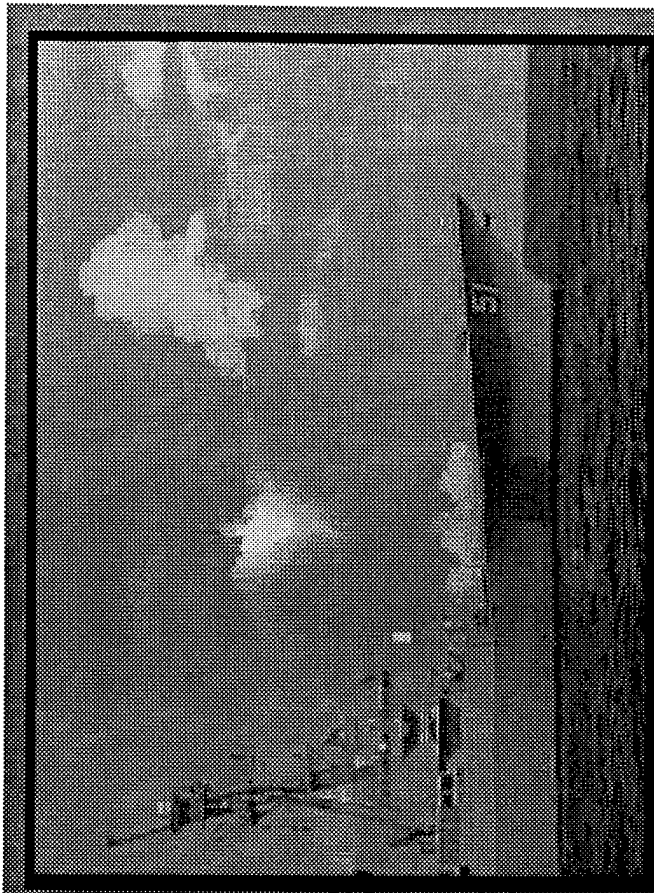


PATRIOT





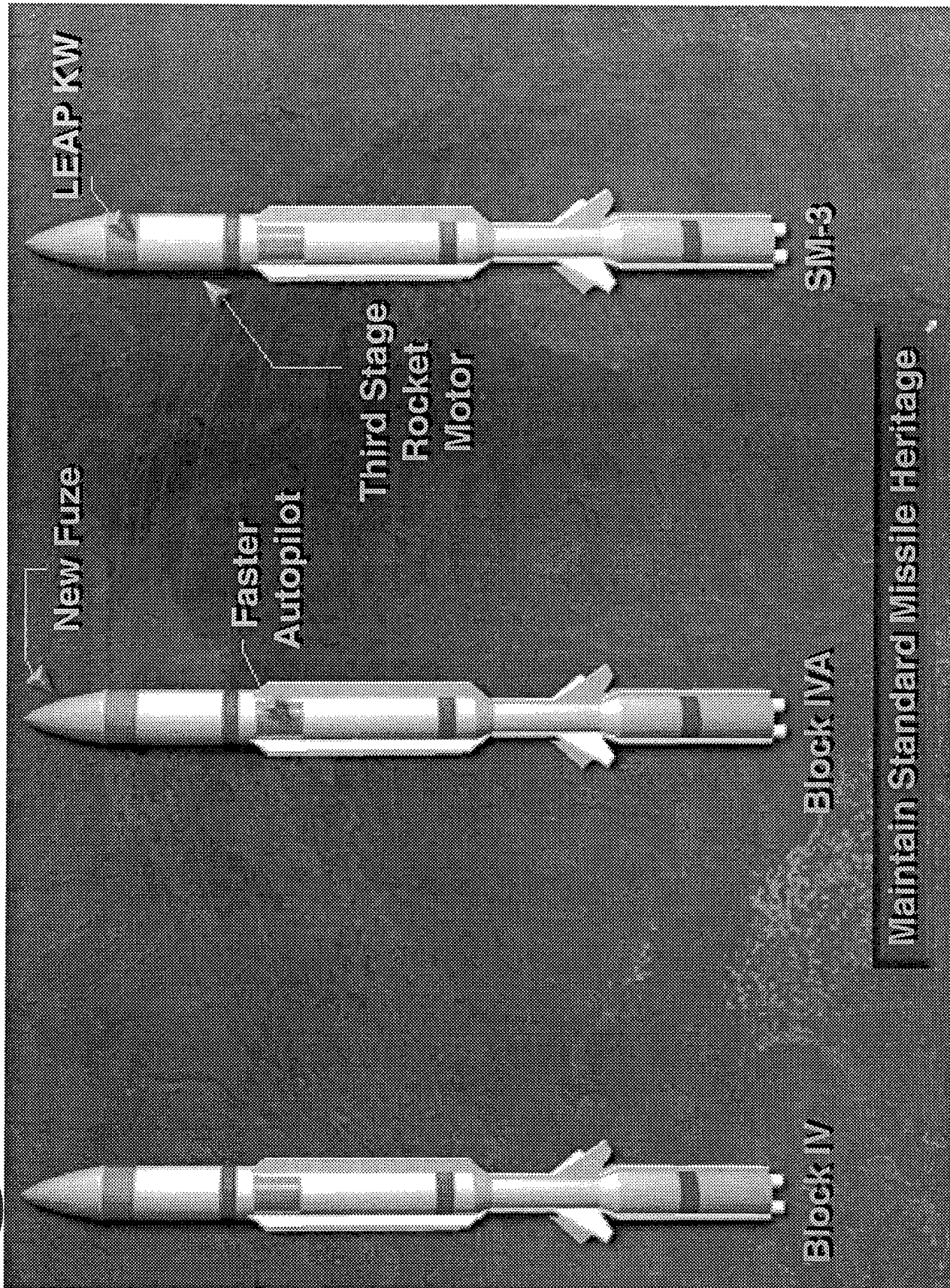
NAVY AREA

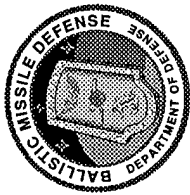


1999				2000				2001	
1 Qtr	2 Qtr	3 Qtr	4 Qtr	1 Qtr	2 Qtr	3 Qtr	4 Qtr	1 Qtr	
Navy Area									
			CTV-1			CTV-2			TBM 2
			CTV-1			FLYBY			TBM 1

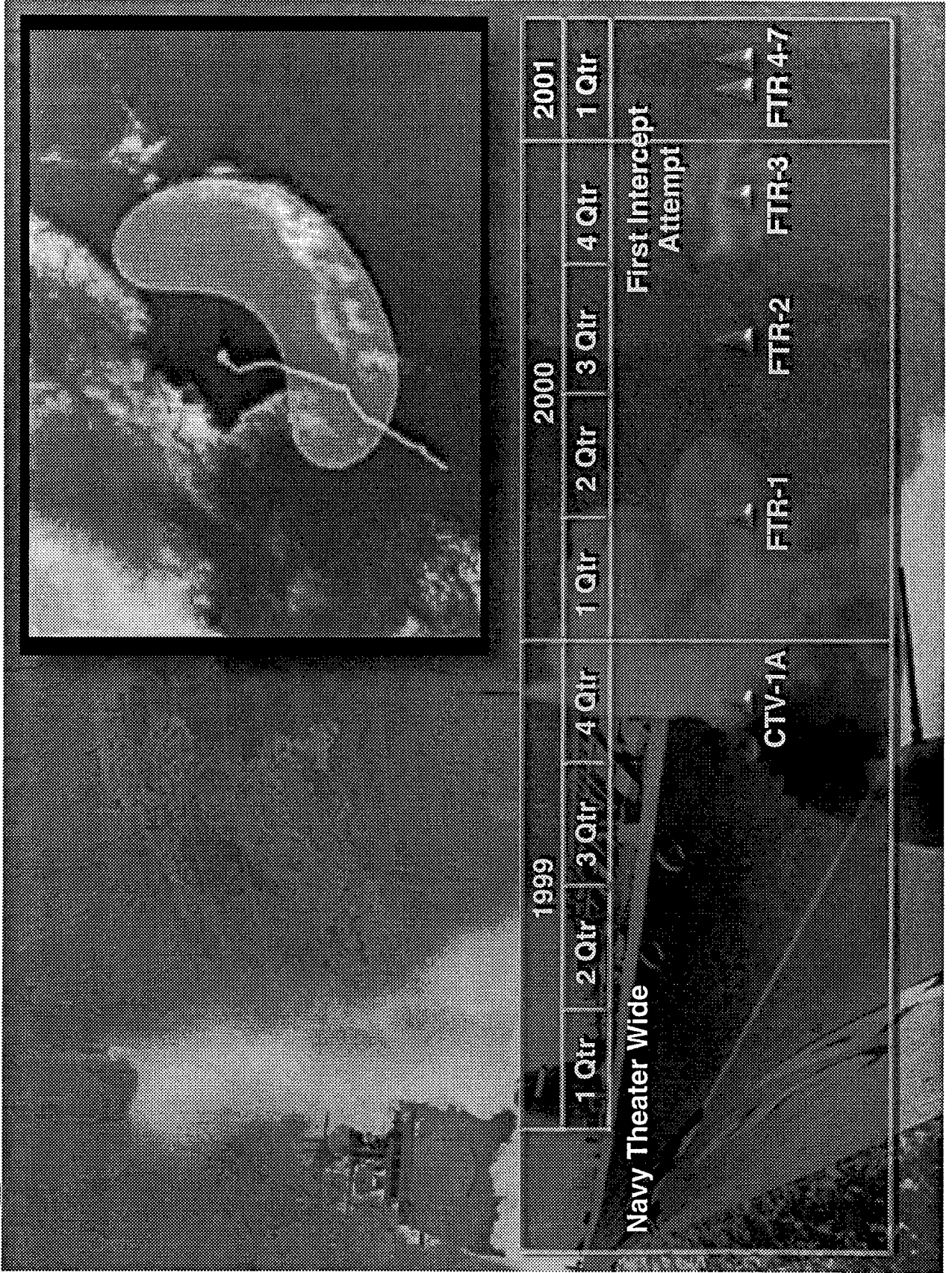


STANDARD MISSILE EVOLUTION



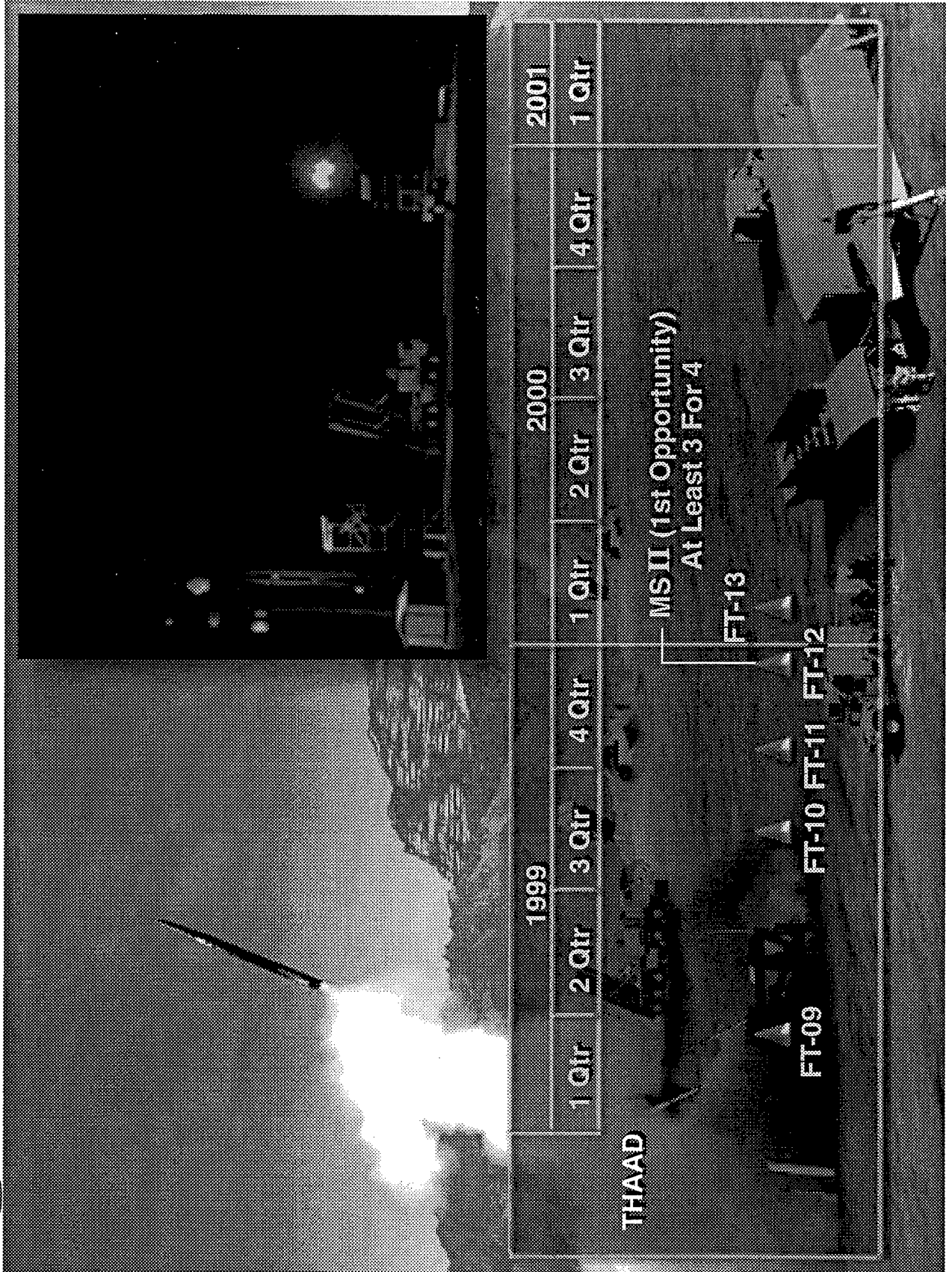


NAVY THEATER WIDE



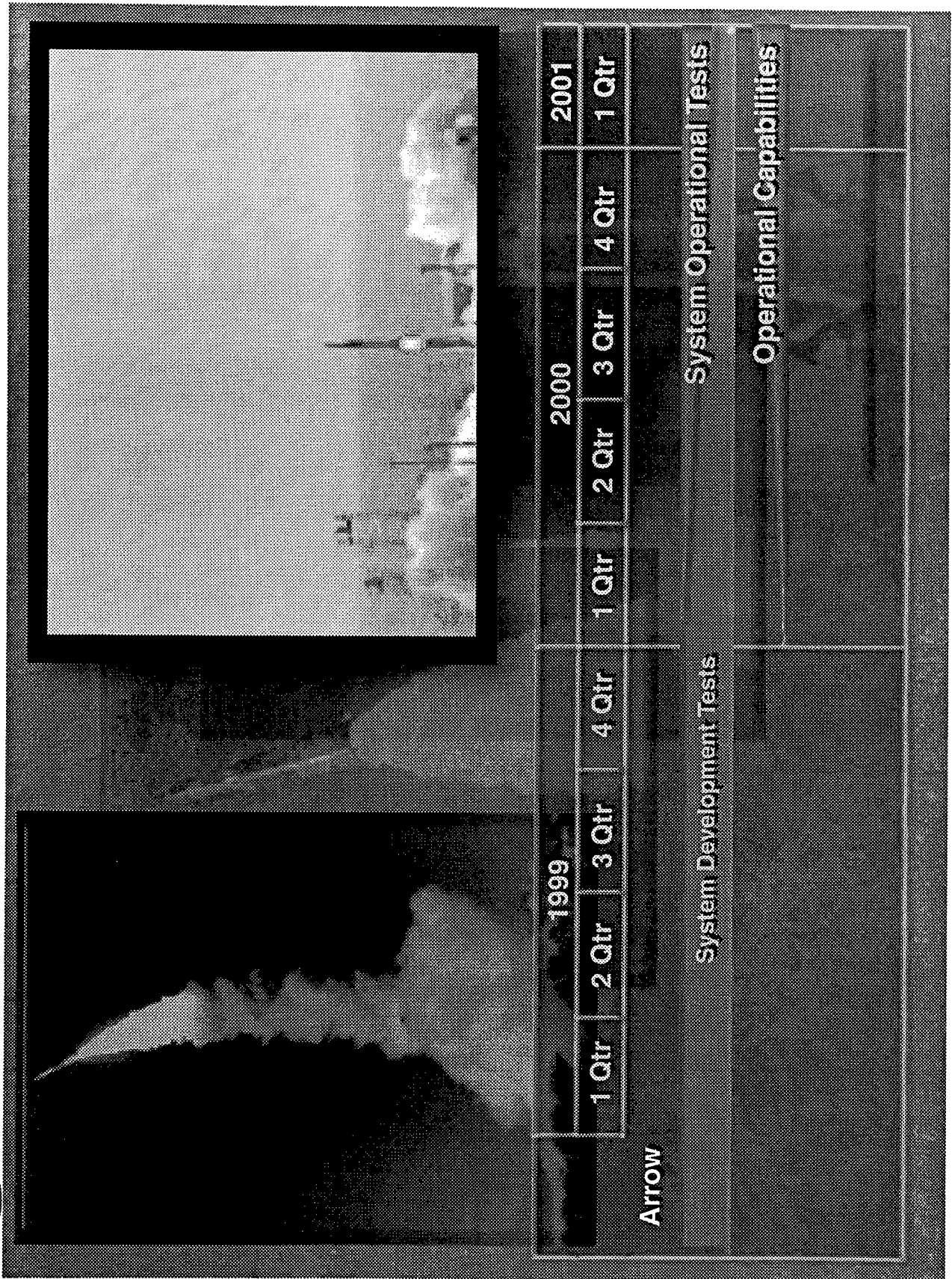


THAAD SYSTEM





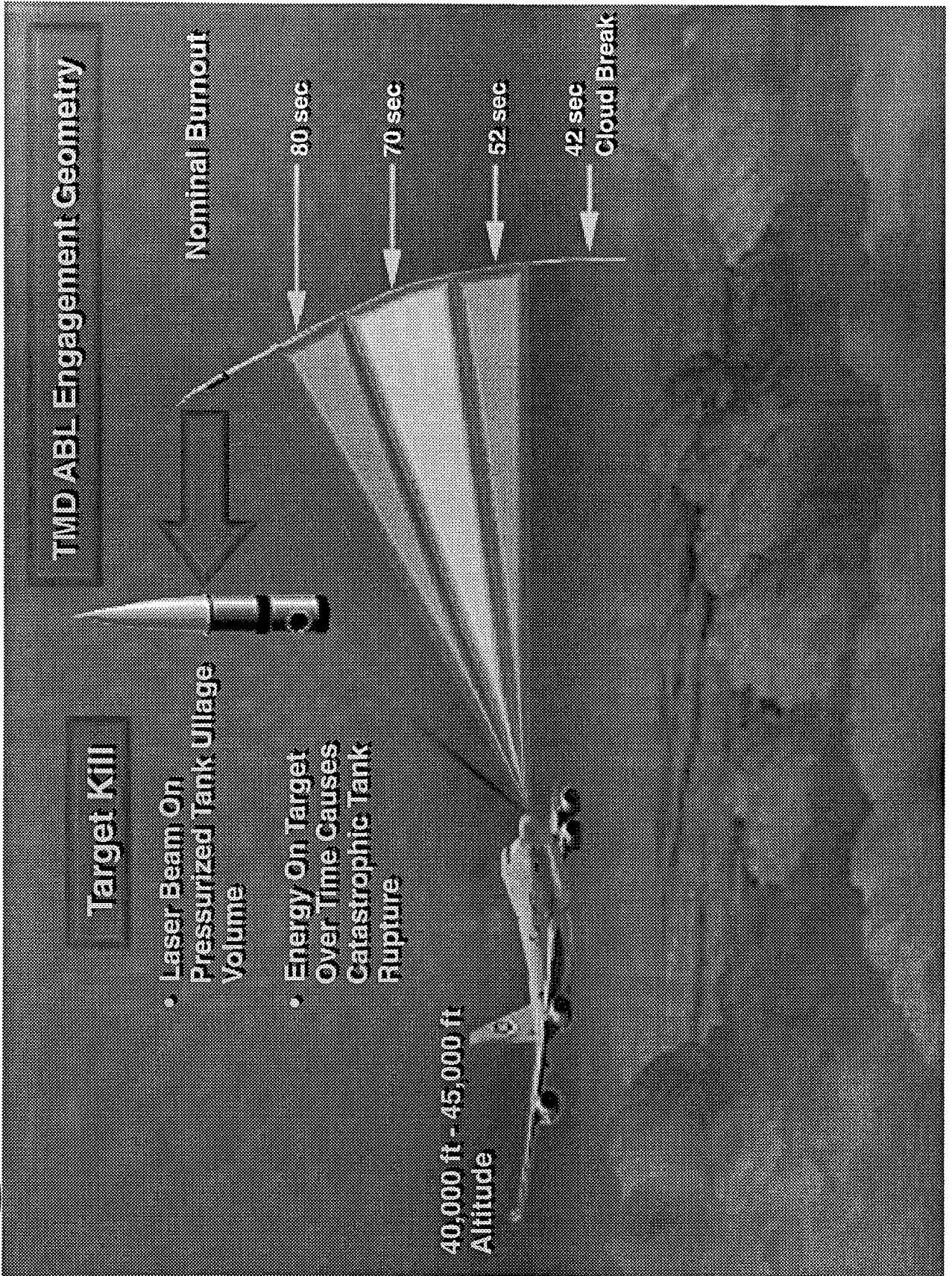
ARROW



1999				2000				2001
1 Qtr	2 Qtr	3 Qtr	4 Qtr	1 Qtr	2 Qtr	3 Qtr	4 Qtr	1 Qtr
System Development Tests				System Operational Tests				
Operational Capabilities				Operational Capabilities				

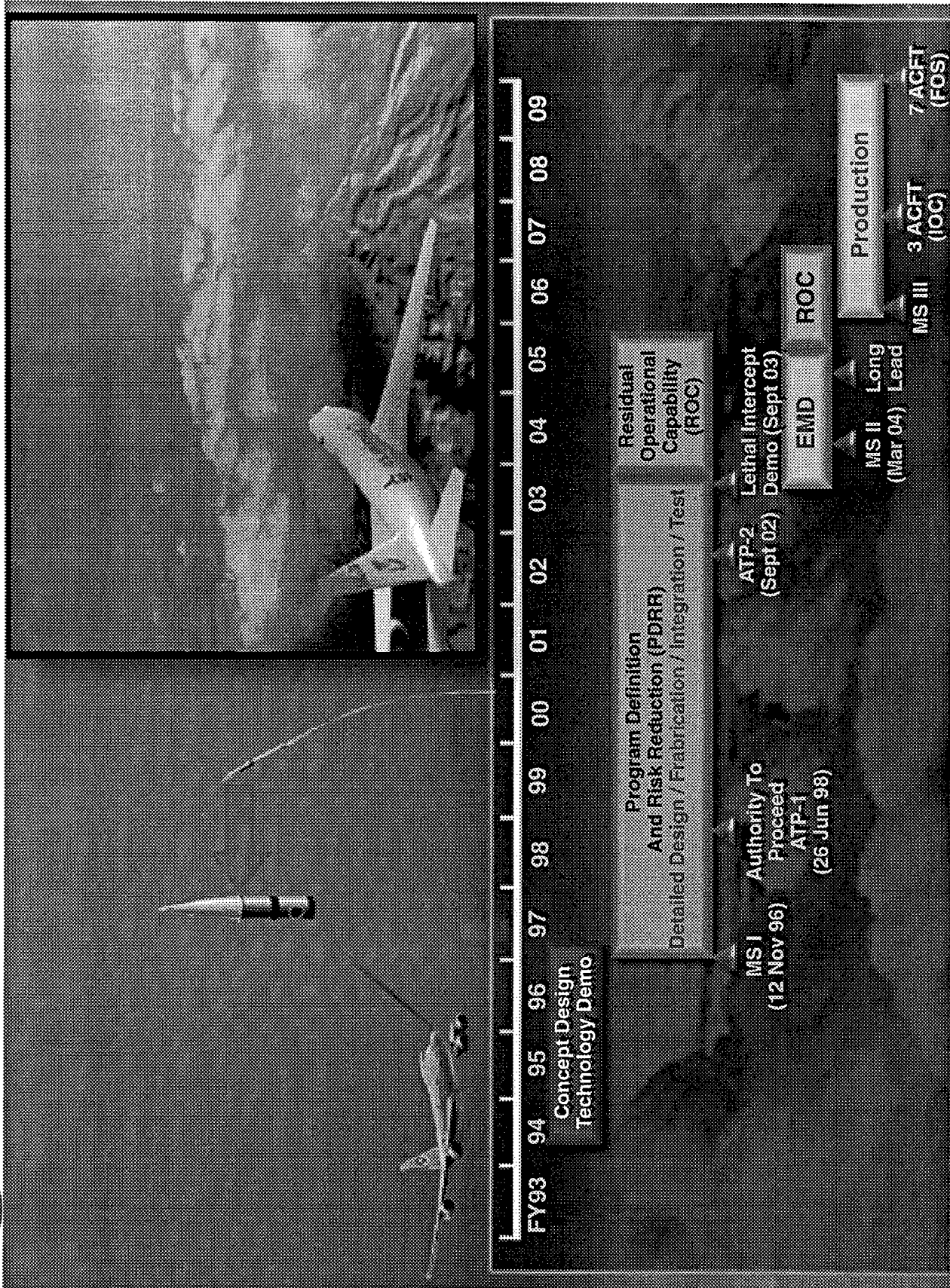


AIRBORNE LASER (ABL)



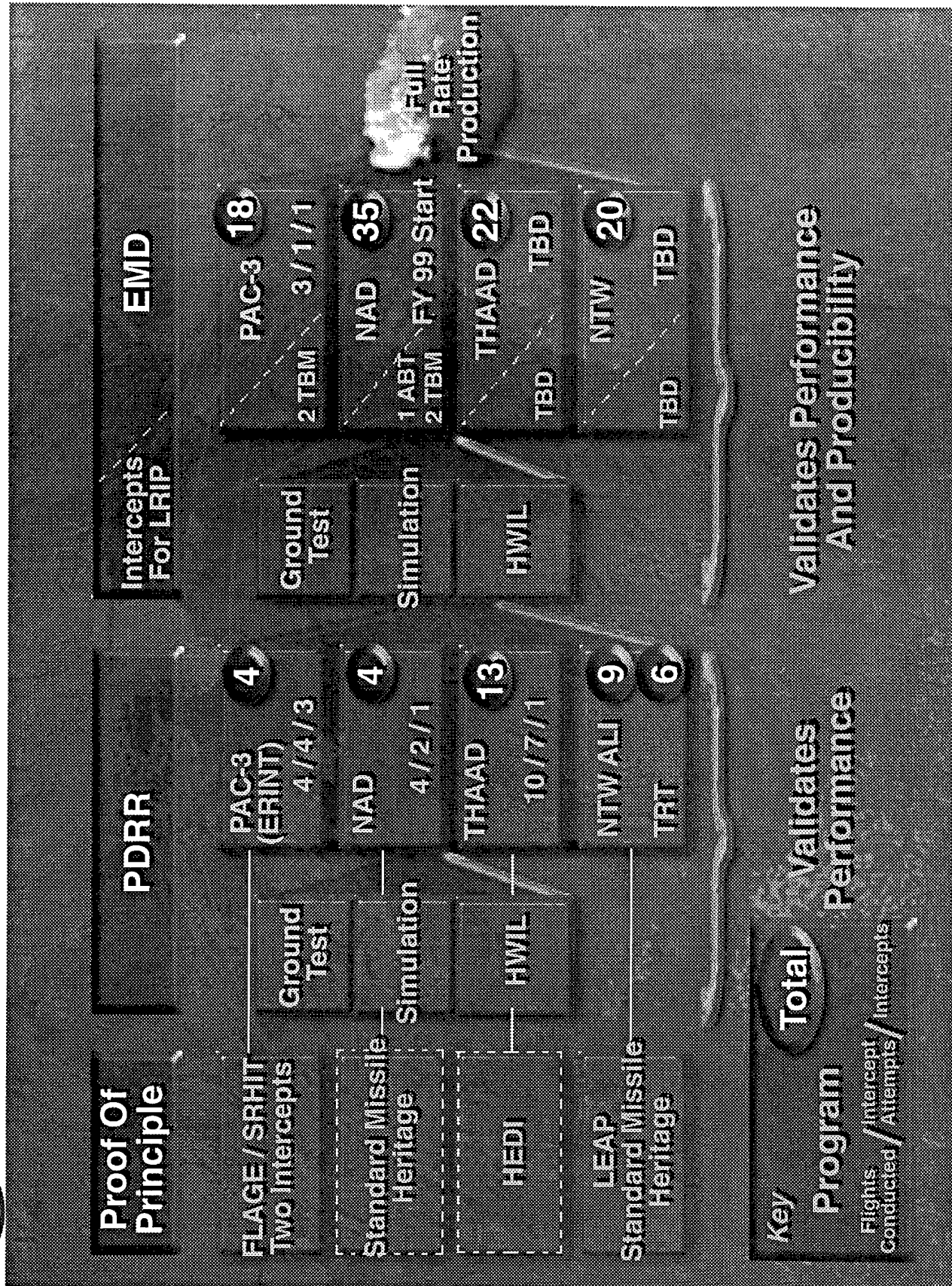


AIRBORNE LASER (ABL)





EXIT CRITERIA



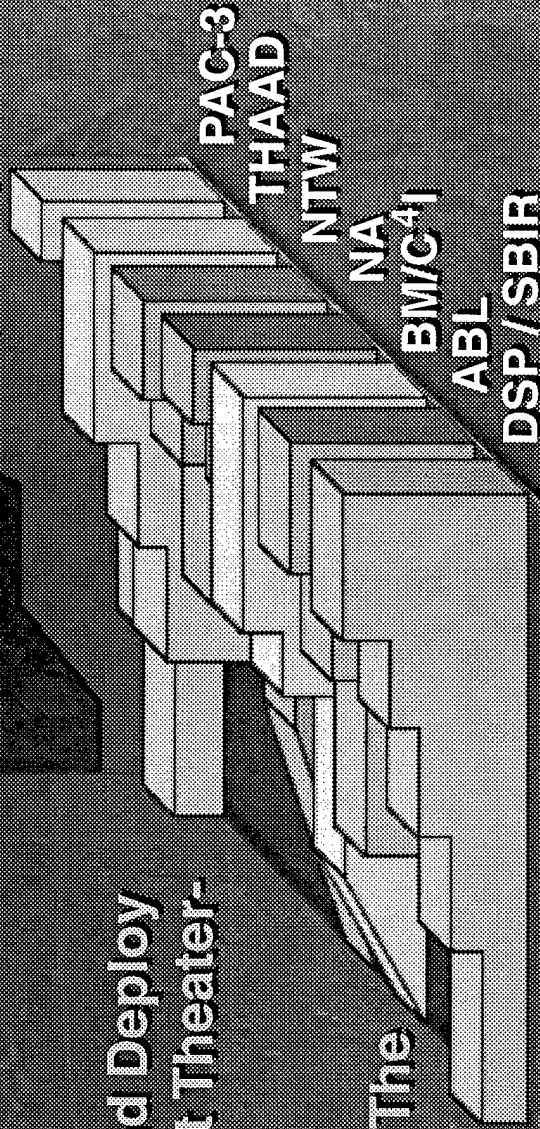


FOS CONCEPT

- The FoS Is An Evolving Flexible Configuration Of Interoperable TMD Weapon System, C² Centers, And External Sensors
- CINCs Select And Deploy Systems To Meet Theater-unique Needs
- Keep Pace With The Threat

FY 98 FY 00 FY 03 FY 06 FY 08 FY 11

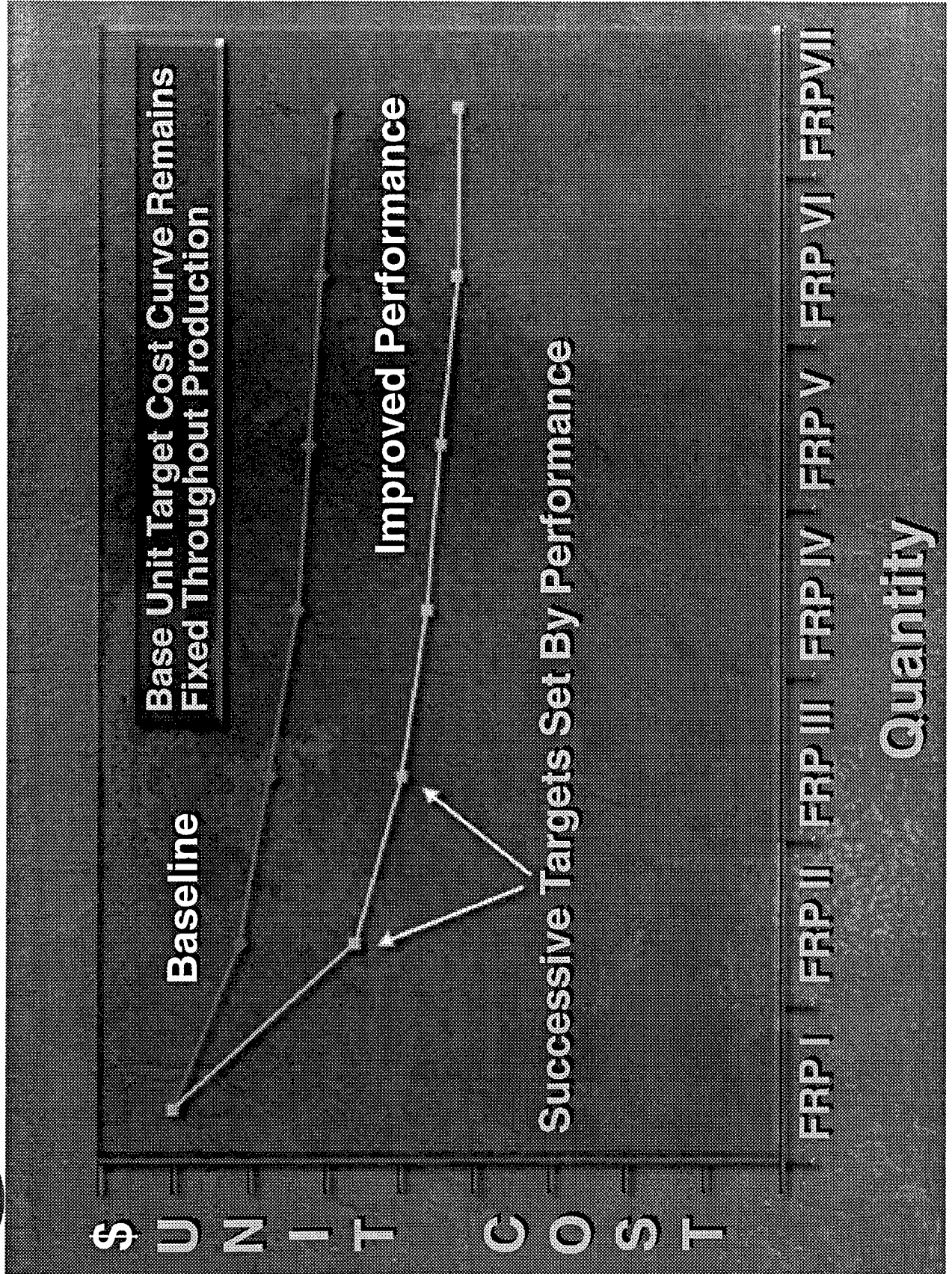
FoS
Capability

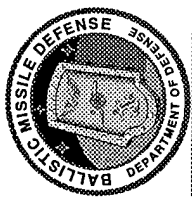


Interoperability Is Critical To FoS "Plug And Fight" Strategy

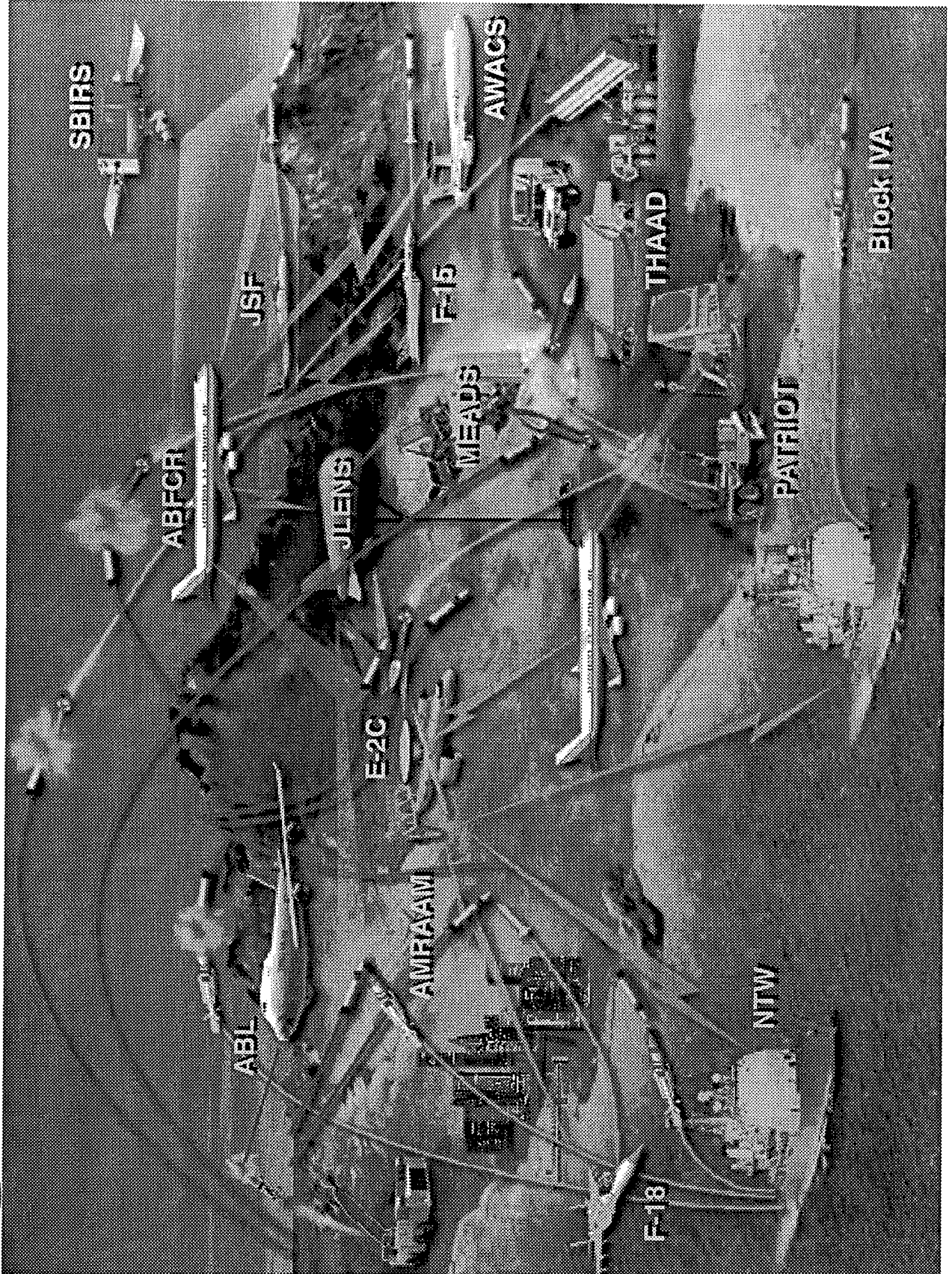


THE LEAN MISSILE INITIATIVE





JTAMD ARCHITECTURE: THE BIG PICTURE





OPERATIONAL CAPABILITIES MAPPED TO WARFIGHTING BENEFIT

Operational Capability	Military Benefit
Situational Awareness	<ul style="list-style-type: none">• Minimize Blue Casualties• Maximize Blue Commanders Confidence
Planning	<ul style="list-style-type: none">• Maximize Ops Tempo, Economy Of Force And Assets Defendable• Minimize Enemy Courses Of Action• Minimize Force Structure
Communication Information Management	<ul style="list-style-type: none">• Maximize Freedom Of Action During Deployment, Maneuver, And Engagement• Minimize Blue Commander's Risk
Air Space Coordination	<ul style="list-style-type: none">• Minimize Blue Casualties
Engagement Coordination	<ul style="list-style-type: none">• Minimize Force Structure And Weapons Expenditure• Maximize Preferential Engagement
Weapon Control	<ul style="list-style-type: none">• Maximize Assets Defendable• Maximize Force Structure Combat Power
Operational Support	<ul style="list-style-type: none">• Maximize Blue Commanders Confidence



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