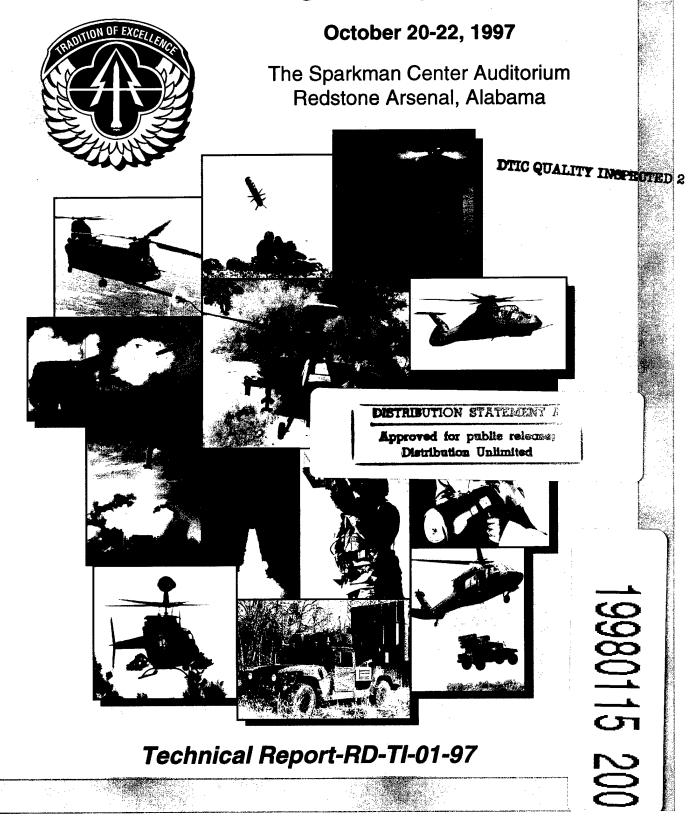
The Post-Proceedings of the U.S. Army Aviation and Missile Command 1997 Advance Planning Briefing For Industry



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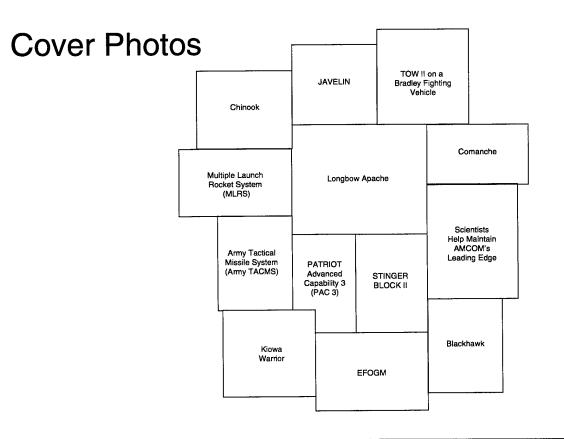
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Preface

This Post-Proceedings document contains revisions / additions to the original APBI Proceedings document distributed at the APBI on 20-22 October 1997

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Final Agenda Welcome **Deputy for Systems Acquisition** Program Executive Office for Tactical Missiles (PEO-TM) Program Executive Office for Air & Missile Defense (PEO-AMD) **Program Executive Office for Aviation** Missile RD&E Center - Vision and Strategic Plan Aviation RD&E Center - Vision and Strategic Plan Missile RD&E Center - Contract Opportunities Aviation RD&E Center -Contract Opportunities Redstone Technical Test Center (RTTC) Air Defense Command and Control Systems (ADCCS) Command Ombudsman **TRADOC Keynote Address** Office of the Assistant Secretary of the Army Research, Development and Acquisition Attendees



1997 APBI AGENDA

U.S. ARMY AVIATION & MISSILE COMMAND

ADVANCE PLANNING BRIEFING FOR INDUSTRY

MONDAY, OCTOBER 20, 1997

1300 - 1600 EARLY REGISTRATION - SPARKMAN AUDITORIUM (Bldg. 5304)

TUESDAY, OCTOBER 21, 1997

0730 -	Registration - Sparkman Center Auditorium (Bldg. 5304)
0815 -	Administrative Announcements Ms. Tammy S. Williams, Acting Technical Industrial Liaison, Technology Integration Office, Missile Research, Development, and Engineering (MRD&E) Center, U.S. Army Aviation & Missile Command (USAAMCOM)

0820 - Welcome MG Emmitt E. Gibson, Commanding General, USAAMCOM

0835 - U.S. Army Aviation & Missile Command Overview Mr. John M. Moore, Resource Management Directorate

0905 - BREAK

- 0930 Deputy for Systems Acquisition BG Robert E. Armbruster, Deputy for Systems Acquisition
- 1015 Program Executive Office for Tactical Missiles (PEO-TM) Ms. Vicky L. Armbruster, Deputy Program Executive Officer, Tactical Missiles
- 1100 **Program Executive Office for Air & Missile Defense (PEO-AMD)** *Mr. A. Q. Oldacre,* Deputy Program Executive Officer, Air and Missile Defense
- 1145 LUNCH at the Redstone Officers' Club Dr. Michael Andrews, Director for Technology Office of the Assistant Secretary of the Army Research, Development, and Acquisition
- 1345Program Executive Office for AviationMr. Paul Bogosian, Deputy Program Executive Officer, Aviation

1415 - **TRADOC Keynote Address** *COL Mark P. Gay*, Director, Future Battle Directorate, U.S. Army Training and Doctrine Command

1500 - BREAK

1530 - Missile RD&E Center Vision and Strategic Plan Dr. William C. McCorkle, Technical Director for Missiles, USAAMCOM and Executive Director Missile RD&E Center

- 1615 Aviation RD&E Center Vision and Strategic Plan Mr. Tom L. House, Technical Director for Aviation, USAAMCOM and Executive Director Aviation RD&E Center
- 1700 Question and Answer Session MG Emmitt E. Gibson, Commanding General, USAAMCOM
- 1800 Reception Redstone Arsenal Officers' Club

WEDNESDAY, OCTOBER 22, 1997

- 0800 Announcements Ms. Tammy S. Williams, Acting Technical Industrial Liaison, Technology Integration Office, Missile RD&E Center
- 0805 Missile RD&E Center Opportunities Dr. Paul L. Jacobs, Associate Director for Technology, Missile RD&E Center
- 0845 Aviation RD&E Center Contract Opportunities Mr. Robert V. Kennedy, Associate Director for Technology, Aviation RD&E Center

0930 - BREAK

- 1000 Integrated Materiel Management Center (IMMC) Richard Turner IMMC
- 1015 Redstone Technical Test Center (RTTC) Test and Evaluation Command Ms. Sharon A. Mueller-Myers, Contracts Specialist, RTTC
- 1035 Instrumentation, Targets, and Threat Simulators (ITTS) Mr. Henry I. Jehan, Jr. ITTS, U.S. Army Simulation, Training, and Instrumentation Command
- 1100 Redstone Arsenal Support Activity (RASA) COL Duane E. Brandt, Commander, RASA
- 1115 Resource Management Directorate Mr. William G. Matthews, Deputy Director, AMCOM Resource Management Directorate
- 1135 Air Defense Command and Control Systems (ADCCS) LTC James M. Althouse, Project Manager, ADCCS
- 1150 LUNCH at the Redstone Officers' Club Mr. Laurence H. Burger, Director, U.S. Army Space and Missile Defense Command's Space and Missile Battle Lab

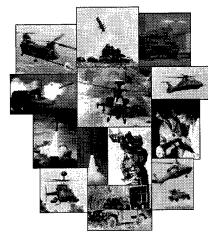
1340 - Acquisition Review Ms. L. Marlene Cruze, Director, AMCOM Acquisition Center

- 1400 Legislative Initiatives AMCOM Legal Office
- 1420 BREAK
- 1450- Command Ombudsman Mr. John W. Finafrock, AMCOM Ombudsman
- 1510 Small Business Office Mr. John F. Nelson, Small Business Advocate, Small and Disadvantaged Business Utilization Office
- 1530 Question and Answer Session Dr. William C. McCorkle, Technical Director for Missiles, USAAMCOM, and Executive Director Missile RD&E Center





1997 Advance Planning Briefing for Industry U. S. Army Aviation and Missile Command



MG Emmitt E. Gibson

Commanding General

U. S. Army Aviation and Missile Command Redstone Arsenal, Alabama



1997 Advance Planning Briefing for Industry BRAC 95 THE DECISION

8 SEP 95 - BRAC List Approved by Congress

"Disestablish Aviation-Troop Command (ATCOM), vacate its leased facilities, and relocate its missions/functions:

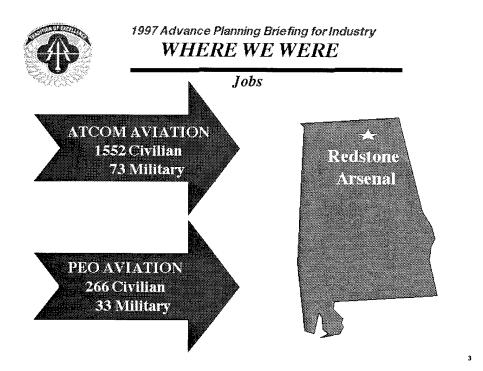


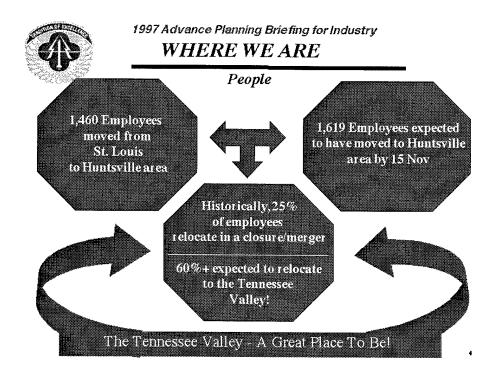
1) Relocate Aviation RDEC, Aviation Management, and Aviation Program Executive Office (PEO) structure to Redstone Arsenal, Huntsville, AL <u>to form</u> the Aviation and Missile Command

2) Relocate functions related to soldier system to Natick RDEC, MA, <u>to align</u> with Soldier Systems Command (SSCOM)

3) Relocate functions related to materiel management of Communications-Electronics to Ft. Monmouth, <u>Malian</u> with the Communications Electronics Command (CECOM)

4) Relocate functions related to materiel management of automotive to Detroit Arsen<u>ato align</u> with Tank-Auto & Arm Command (TACOM)"









1997 Advance Planning Briefing for Industry THE AMCOM VISION

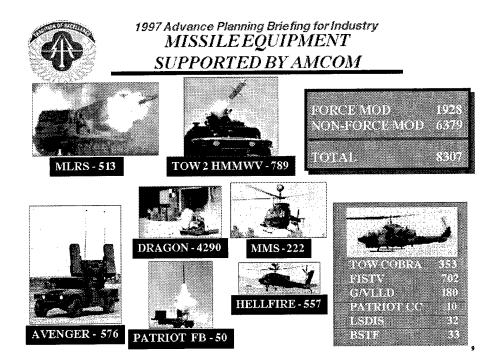
- The Army's 21st Century leader in equipping and sustaining technologically dominant aviation and missile systems.
- A total force of quality soldiers and civilians dedicated to:
 - » A flexible environment where people achieve full potential
 - » Consistently exceeding customers' expectations
 - » Teaming with our customers, industry, and the community
 - >> Providing world class support to our ultimate customer -- the soldier



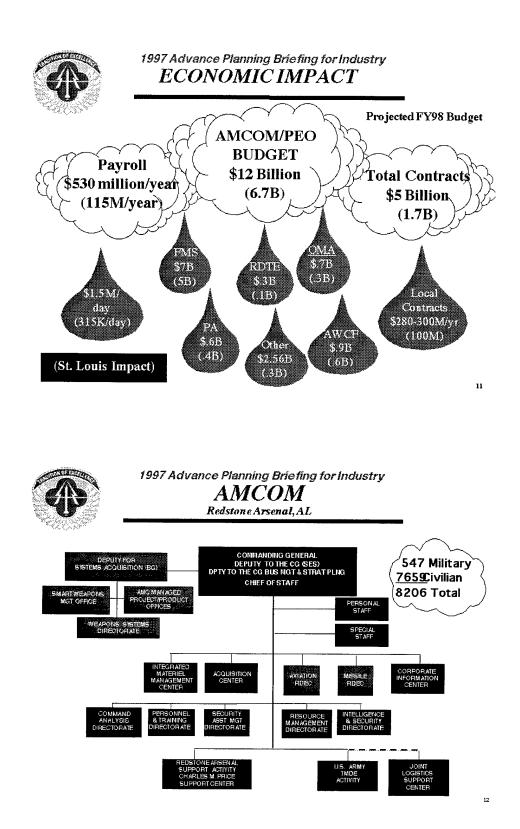
1997 Advance Planning Briefing for Industry AMCOMMISSION

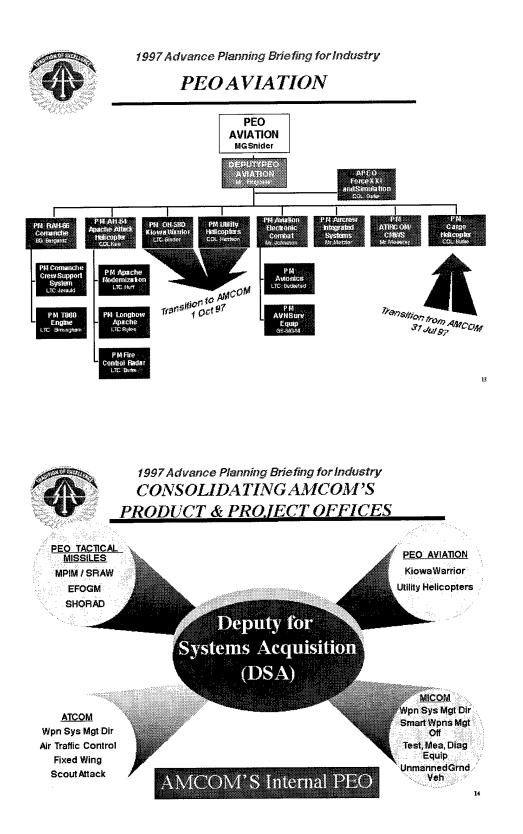
Develop, acquire, field, and sustain aviation and missile systems -- united with program managers, industry, and other partners -- to guarantee the Army's technological superiority on the battlefield.

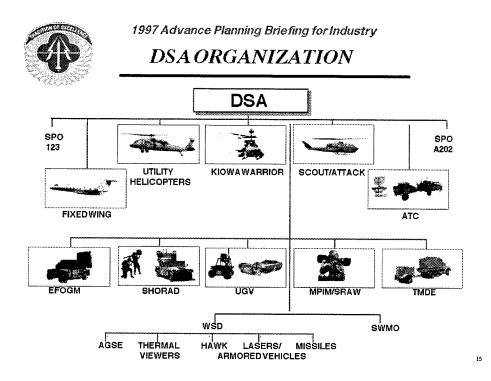


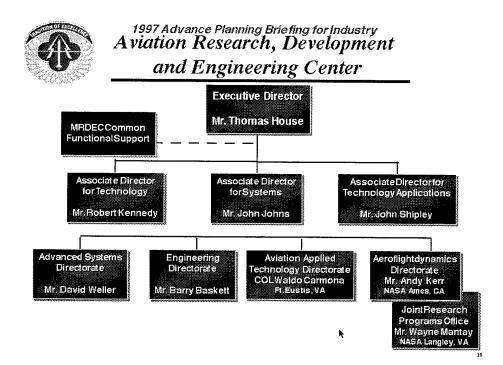


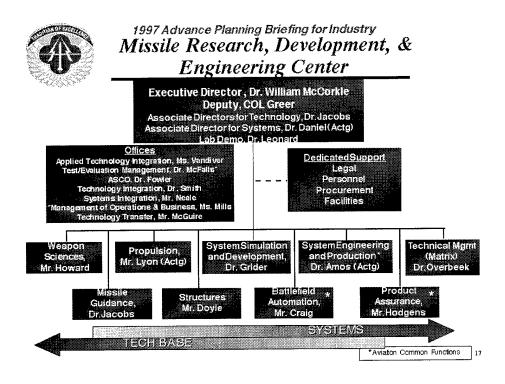


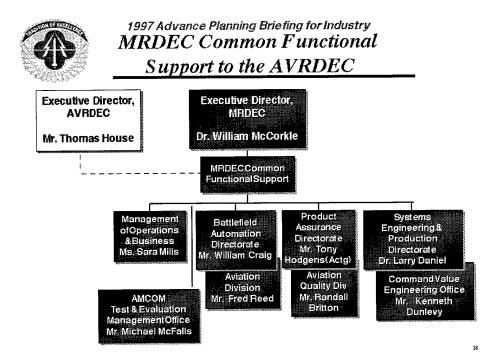








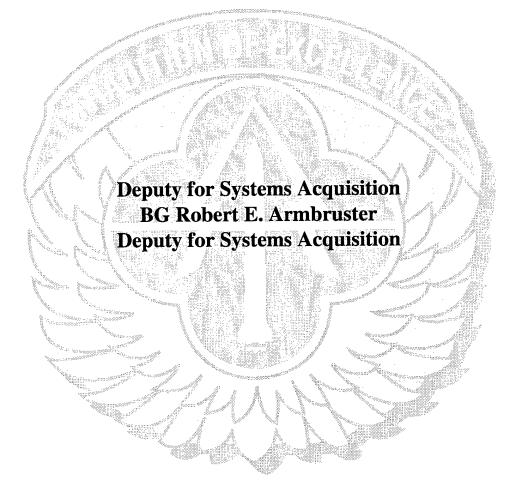


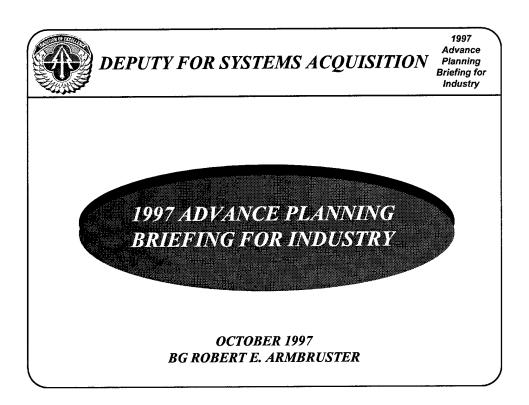




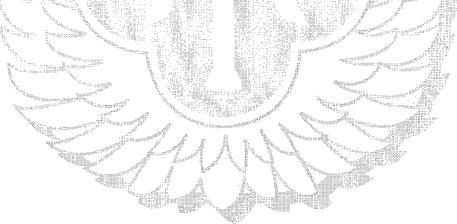
1997 Advance Planning Briefing for Industry Presentation Schedule

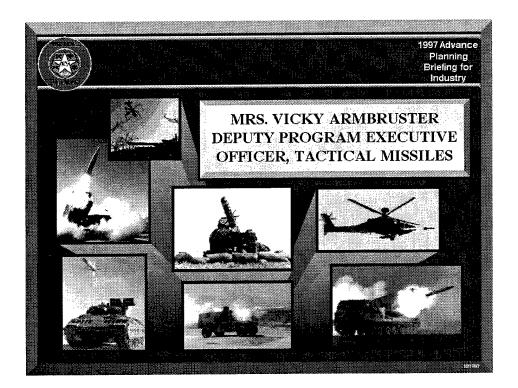
U.S. Army Aviation & Missile Command Overview Deputy for Systems Acquisition Program Executive Office for Tactical Missiles (PEO-TM) Program Executive Office for Air & Missile Defense (PEO-AMD) Program Executive Office for Aviation TRADOC Keynote Address Missile RD&E Center Vision and Strategic Plan Aviation RD&E Center Vision and Strategic Plan Missile RD& E Center Contract Opportunities Aviation RD&E Center Contract Opportunities Integrated Materiel Management Center (IMMC) Redstone Technical Test Center (RTTC) Instrumentation, Targets, and Threat Simulators (ITTS) Redstone Arsenal Support Activity (RASA) Resource Management Directorate Air Defense Command and Control Systems (ADCCS) Acquisition Review Legislative Initiatives CommandOmbudsman Small Business Office

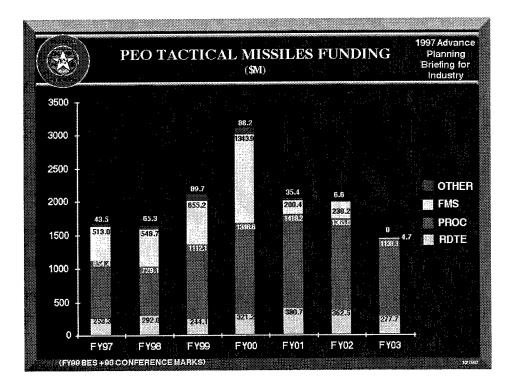


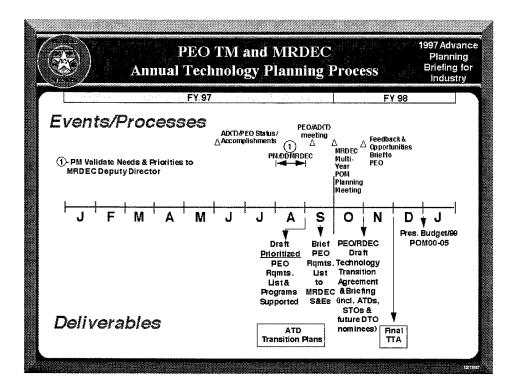


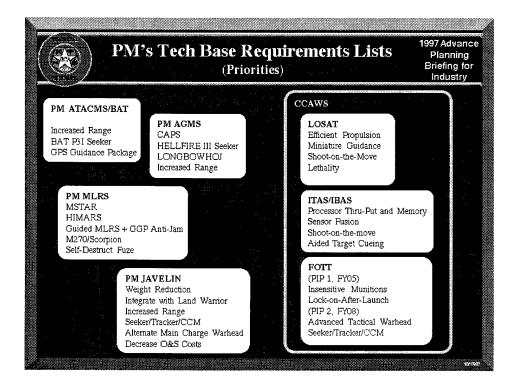
Program Executive Office for Tactical Missiles (PEO-TM) Mrs. Vicky Armbruster Deputy Program Executive Officer, Tactical Missiles

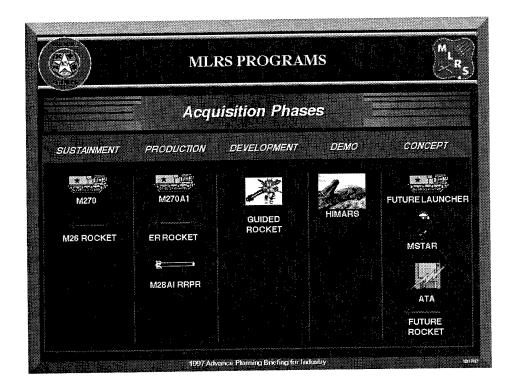


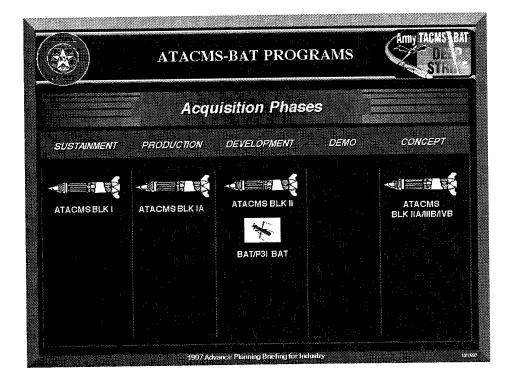


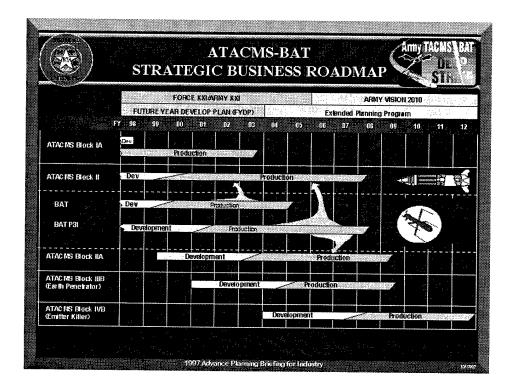




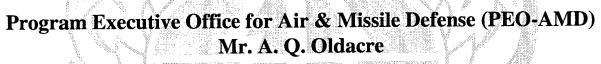


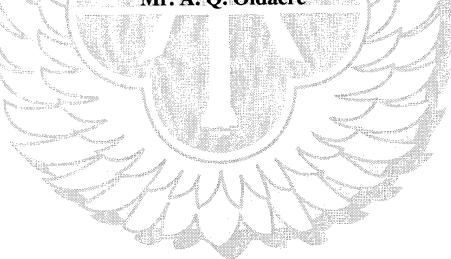


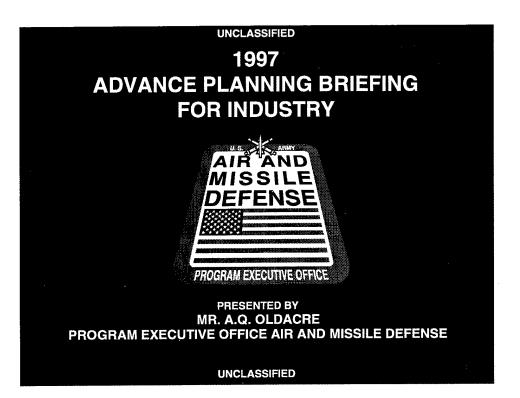


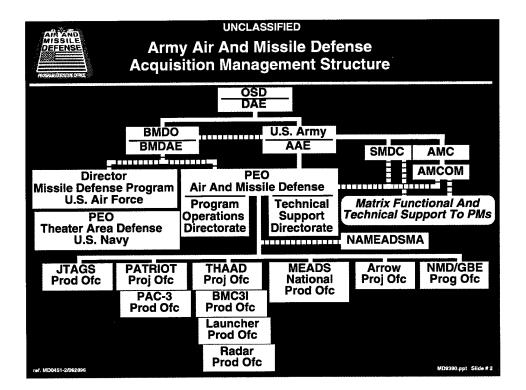


FY 98 CONTRACTS					
<u>nne</u>	TYPE OF CONTRACT	RFP RELEASE	AWARD DATE	APPROX VALUE (\$)	KIND OF AWARD
BLOCK II IOT&E OPTION (IF EXERCISED)	CPIF	N/A	2QF 198	19.4M	SOLESOURCE:
BLOCK IIA EMD	CPIF	4QF 198	3QF Y99	TBD	SOLESOURCE:
P3I BAT ENGINEERING & MANUFACTURING DEVELOPMENT (45 MONTHS)	CPIF	2QF 197	1QF Y98	TBD	SOLESOURCE: NGESID
		Senning Briefing f			









	Arı	my Air And	ASSIFIED Missile De s Schedule			Б	
	FY FY 95 96	FY FY FY 97 98 99	FY FY FY 00 01 02	FY FY 03 04	FY 05	FY FY 06 07	FY 08
JTAGS	EMD Pro	od P3I/Sust	ainment	Ę			
PATRIOT (PAC-3)	Developi	ment P	FUE FOR		s	ustainm	ent <
THAAD	- De	UOES m/Val	Eng a	& Mfg Dev	/	VFUE F	Prod <
MEADS	Teaming Phase	Proj Def- Val (PD-V)	Design & Development			Product	UE ion <
Arrow	ACES	Deployabili	ty Project				
NMD	Tech Read Prog	Deployment Readiness Program	Continued Developmen Deploymen	nt/			
Ref. MD0744d						MD9390.p	pt Slid∎#/3

AIR AND MISSILE DEFENSE MORAL CONST	UNCLASSIFIED Key Upcoming Events
PATIEIOT	 PAC-3 Development Flight Test 2 (November 1997) PAC-3 Longlead LRIP Contract Award (October 1997)
thaad	• Dem/Val Flight Test 8 (February 1998)
JIAGE	• SBIRS P3I Startup (Fiscal Year 1998)
CORPS LAN	 Continue MOU (D&D) Negotiations (November 1997) Downselect To One Contractor (December 1998)
6	Arrow II Intercept Flight Test 4 (December 1997)
U.S. ARVY N. N. D Ref. MD5441c	Integrated Flight Test 2 (January 1998) EKV Downselect (April 1999)

	DATIOT
Contracting Opportunity Low Voltage Power Supply (LVPS) High Density Module Estimated Value \$500K-\$1M	Program Description Development, Fabrication, Initial Testing, Delivery, And System Test Support For The Redesign And Prove-Out Of Low Voltage Power Supplies For PATRIOT.
Contract Point Of Contact Valeta Crandall (205-876-1109) Vern Chance (205-955-3654) Contract Type FFP	
Kind Of Award Competitive - Full And Open	
▲ Issue Draft RFP ◆ Issue Solicitation ◆ Contract Award	FY99 FY00 FY01 FY02

AIR AND MISSILE	SSIFIED Opportunity	
Contracting Opportunity Anti-Cruise Missile (ACM) Estimated Value	Program Description Option Exercise For ACM Critical Materials For Test Support Which Are Necessary For Phase III (Test Phase)	
\$8M-\$11M	Of The Program	
Contract Point Of Contact Valeta Crandall (205-876-1109) Richard Brown (205-955-3806)	Raytheon Company	
Contract Type CPIF	Contractor Point Of Contact Bob De Rosa (617-274-2898)	
Kind Of Award Sole Source		
▲ Issue Draft RFP ◆ Issue Solicitation ◆ Contract Award	5 FY99 FY00 FY01 FY02	

Contracting Opportunity PAC-3 Missile Low Rate Initial Production (LRIP) Estimated Value \$120M-\$130M	Program Description LRIP Of 52 PAC-3 Missiles, 11 Enhanced Launcher Electronic Systems (ELESs), and 9 Fire Solution Computers (FSCs)
Contract Point Of Contact Valeta Crandall (205-876-1109) Larry Easterwood (205-955-3577) Contract Type FFP	Contractor Lockheed-Martin Vought Systems Contractor Point Of Contact Charlie Simpson (972-603-2807)
Kind Of Award Sole Source	
▲ Issue Draft RFP ◆ Issue Solicitation ♦ Contract Award	FY99 FY00 FY01 FY02

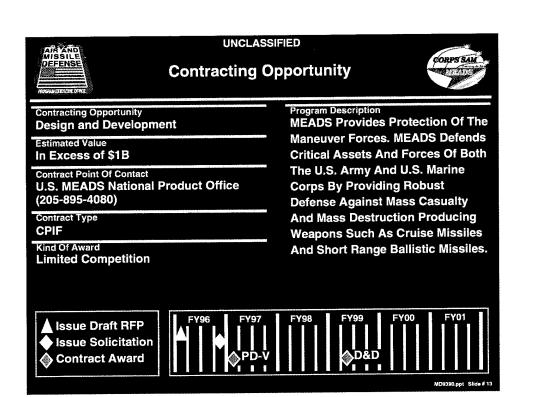
UNCLASSIFIED Theater High Altitude Area Defense (THAAD) System			
Illustration	Objective		
Missile And Kill Vehicle BMC ² Launcher Die Gougeneritus Radar Radar Eugeneritus Couling Eugeneritus (Rustions Eugeneritus) Eugeneritus (Rustions Eugeneritus)	 Provide Aerial Defense Against Short and Medium Range Ballistic Missiles Employ Hit-To-Kill Technology Capable Of Both Endo- And Exo-Atmospheric Intercepts Constitute Upper Tier Of Two Tiered TBM Defense Field Two Battalions 		
Status	Schedule		
 Currently In PDRR Flight/System Test Phase 	and the sea the sea of		
- 7 Flights Conducted	Milestones MS I		
System Is Fully Integrated UOES Delivered - Less Missiles	PDRR PDRR		
Cause Of Flight Test 7 Failure - Contaminant			
Introduced By Shorting Plug	UOES Mig/Assy		
Next Flight Test - February 1998	40 Misuile Option		
- 2+4 Approach • Milestone II - FY99	IOTAE Support		
Current Program - FUE FY06	Objective Sriti SUM 55R		
Focus On Component Reliability And Improved End- To-End Ground Testing Of Missile			
Ref. MD0004ag	MD9390.ppt Slide # 8		

UNCLASSIFIED Contracting Opportunity			
Contracting Opportunity	Program Description		
THAAD User Operational Evaluation	Contract Option To Manufacture,		
System (UOES)	Integrate, Assemble, Ground Test,		
Estimated Funding	And Deliver 40 Missiles For The		
\$190M–\$195M	THAAD User Operational Evaluation		
Contract Point Of Contact W.L. Schick (205-955-3044)	System (UOES).		
Contract Type CPFF	Contractor Lockheed-Martin Missile And Space		
Kind Of Award	Contractor Point Of Contact		
Exercise Of Existing Contract Option	Perry Bakke (408-756-7669)		
▲ Issue Draft RFP	FY99 FY00 FY01 FY02		
◆ Issue Solicitation	FY01 FY02		
◆ Contract Award	HILL State # 9		

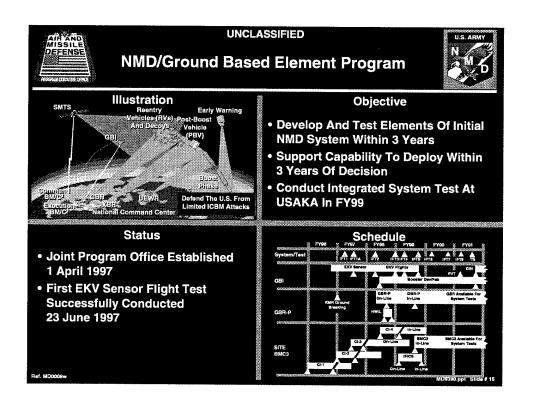
AIR AND MISSILE	SSIFIED Copportunity	
Contracting Opportunity THAAD Engineering Manufacturing And Development	Program Description The THAAD System Is The U.S. Land- Based Upper Tier TMD System. The	
Estimated Value \$340M-\$350MFY99 \$340M-\$350MFY00 \$340M-\$350MFY01	 High Altitude And Wide Area Protection Furnished By The THAAD System Will Complement The Lower Tier Systems. 	
Contract Point Of Contact W.L. Schick (205-955-3044)	Contractor Lockheed-Martin Missile And Space	
Contract Type CPAF	Contractor Point Of Contact Perry Bakke (408-756-7669)	
Kind Of Award Sole Source		
▲ Issue Draft RFP ◆ Issue Solicitation ◆ Contract Award	B FY99 FY00 FY01 FY02 FY01 FY02 FY02 FY01 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02 FY02	

UNCLA MISSILE DEFENSE	SSIFIED
Contracting	Opportunity thaad
Contracting Opportunity Software Independent Verification And Validation (IV&V)	Program Description Software IV&V To Support And Maintain The Transition From
Estimated Value \$90M–\$110M	Program Definition And Risk Reduction (PD&RR) Phase To The Engineering Manufacturing
Contract Point Of Contact W.L. Schick (205-955-3044)	Development (EMD) Phase Of THAAD.
Contract Type CPAF	
Kind Of Award Small Business Set Aside	
▲ Issue Draft RFP ◆ Issue Solicitation ♦ Contract Award	FY99 FY00 FY01 FY02

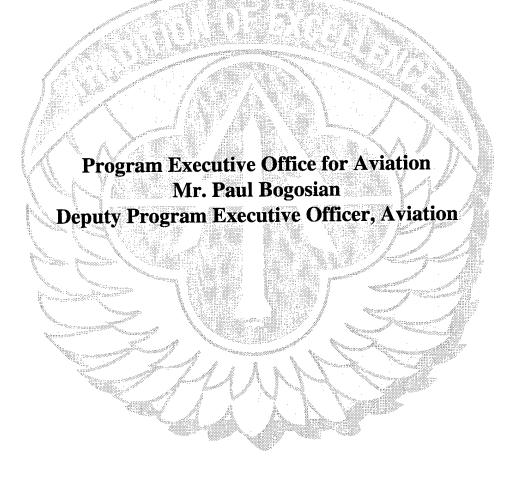
MISSILE	SSIFIED
Contracting	Opportunity thaad
Contracting Opportunity Simulation/Hardware-In-The-Loop (HWIL) Development	Program Description Scientific, Engineering, Analysis, And Technical Efforts To Design,
Estimated Value \$40M–\$50M	Continue To Develop, Fabricate, And Test Simulations, Drivers, And HWIL For The THAAD System.
Contract Point Of Contact W.L. Schick (205-955-3044)	Contractor Tech Masters, Inc
Contract Type CPAF	Contractor Point Of Contact Frank Jennings (205-721-6613)
Kind Of Award Sole Source 8(a) Award	
▲ Issue Draft RFP ◆ Issue Solicitation ♦ Contract Award	FY99 FY00 FY01 FY02



Contracting Opportunity Modified Arrow Radar Seeker Test Set Estimated Value	Program Description To Provide A Modified Arrow Radar Seeker Test Set For Use In Emulations Of The Seeker For
\$400K-\$600K Contract Point Of Contact Kim Smith (205-955-4665)	Software And System Tests. Contractor Lockheed-Martin
Contract Type CPFF	Point Of Contact Ed Surowiec (407-356-3257)
Kind Of Award Sole Source	FY99 FY00 FY01 FY02
▲ Issue Draft RFP ◆ Issue Solicitation ◆ Contract Award	MD0330.ptl Sild#14

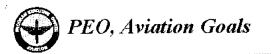


MISSILE DEFENSE	SSIFIED US ARMY Opportunity
Contracting Opportunity NMD Lead Systems Integration Execution Phase	Program Description Design, Develop, Integrate NMD System. Prepare For FY99 Integrated
Estimated Value TBD - Based On Industry Approach	Test. Prepare To Deploy.
Contract Point Of Contact Mr. Alex Austin At BMDO (703-604-4288)	
Contract Type CPAF	
Kind Of Award Limited Competition	
▲ Issue Draft RFP ♦ issue Solicitation ♦ Contract Award	FY99 FY00 FY01 FY02





Mr. Paul Bogosian Deputy Program Executive, Aviation



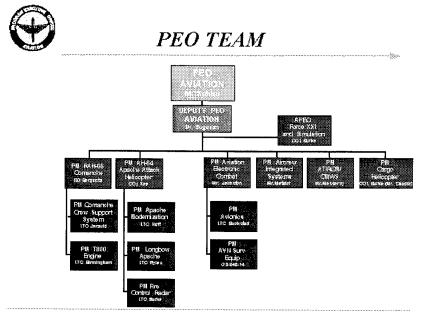
 Modernize Army Aviation for Least Cost IAW Army Vision 2010

- Leverage Acquisition Reform, Science & Technology, Recapitalization, Contractor Logistics Support

- Ensure Required Aviation Systems Are Ready and Equipped for FY00 Digitized Division
 - Longbow Apache
 - Kiowa Warrior



- Army Airborne Command and Control System (A2C2S)





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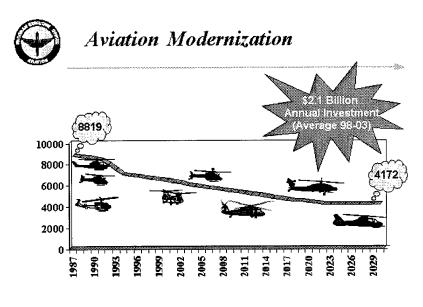
Author	ized TL	DA		FY98 Personnel	Resources	(Work	Years)	
	CIV	Mii	TOT		AMCOM	Contractor	Other MSC	
PEO	20	3	23	Requirement Type	Matrix Support	Support	Support	Totals
ААН	79	15	94	Logistics Support	63	34	110	207
RAH	80	9	89	Programs/Proc Support	35	25	61	121
	00	•	0.5	Technicai Support	105	113	170.6	401
AEC	73	10	83	Totals	203	172	183	729
ACIS	18	2	20					
<u>ICH</u>	<u>16</u>	2	<u>18</u>		1.144	小儿	4 5	2
Total	286	41	327					
						1 I	N. N. K.	



PEO Aviation Move Schedule

-32.00-

	June July		October	<u>% movers</u>
PEO HQ				71%
Comanche PMO				79%
Black Hawk PMO				68%
Apache PMO				72%
ACIS PMO	1			72%
(Air Crew Integrated Sy	(stems)			
Kiowa Warrior				68%
AEC PMO				72%
(Aviation Electronic Co	ombat)			
Cargo PMO				55%



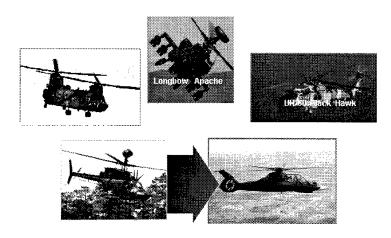


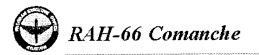
PEO Aviation Budget (\$ in Millions) BES (15 Sep - Before Congressional Reductions)

- 30

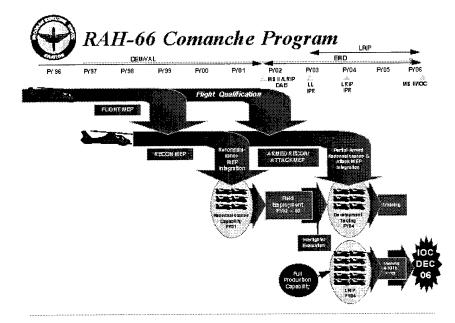
RDTE	98	99	00	01	02	03	Total
Comanche	282.0	371.9	441.3	587.0	738.2	778.1	3198.5
Apache	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AEC	69.4	67.2	9.4	7.9	60.5	50.9	265.3
ACIS	7.7	9.0	6.4	9.5	6.5	5.0	44.1
Cargo	22.6	28.8	8.2	1.0	0.0	0.0	60.6
Total	382.0	476.9	48 8.4	610.5	8 05.2	834.0	3597.0
АРА							
Comanche	0.0	0.0	0.0	0.0	0.0	5.7	5.7
Apache	566.4	723.8	824.5	800.1	810.6	766.1	4491.5
AEC	99.4	132.0	172.8	132.9	249.5	303.5	1090.1
ACIS	12.5	9.3	4.6	1.5	22.4	36.8	87.1
Cargo	63.9	108.6	116.6	278.3	451.2	458.3	1476.9
Total	742.2	973.7	1118.5	1212.8	1533.7	1570.4	7151.3
Total	1124 2	1450.6	16.06 9	1823 3	2338.9	2404.4	10748.3

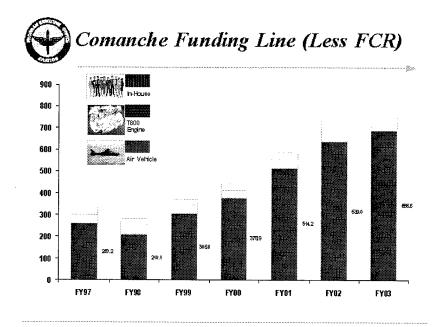


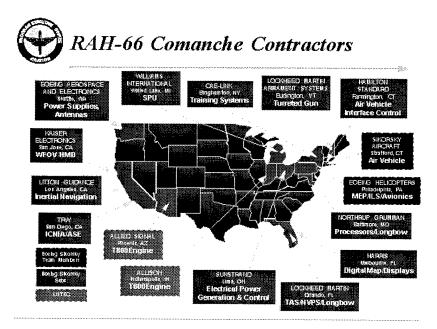


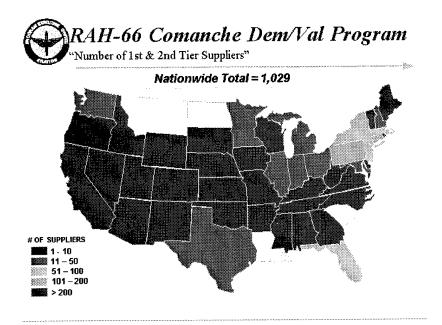


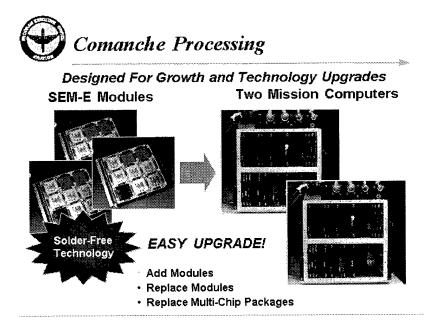


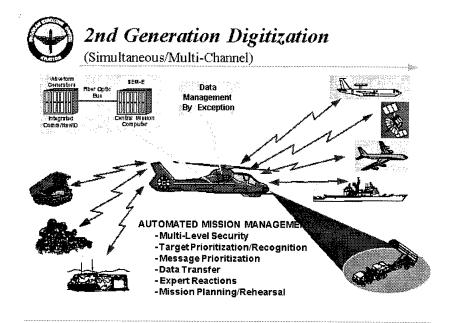












				y Support Status (3-6-97)
No.	Top 9 Tech Challenges	Assigned Gosernment Organization	Status	Technology is sue
1.	High Temperature Composite Materiais	AYRDEC-AATD (Phil Leferriere) 757-878-3977		Current Shafts within Firewall Subject to Failure Due to Heat o Fire. Need Low CostLightweig High Temperature (>1100 Deg.F) Drive Shaft.
2.	LO Canopy Transparency	AVRDEC-AATD (Mac Dinning) 757-878-2361	\odot	Multiple Scatter Between Rotor and Canopy Dominates Dynami Signature at Some Viewing Aspects
3.	Lightweight, Ballistic Armor	AV RDEC - AATD (Kent Smith) 757-878-5875	\odot	Existing Arm or Technology Wil Not Provide Ballistic Protection Desired Low Aerial Density
4.	Helmet Mounted Flat Panel Display	NYSED (Howard Kessler) 703-704-1382	\odot	Need For High-Light-Throughpu Operation Integrated Heater Element, and Full MIL Ruggedization
5.	Paint (IR, Visual, etc.)	AV RDEG – AATD (Mac Dinning) 757-8787-2561	$\textcircled{\textcircled{\baselinetwidth}}$	Current Baseline MIL-SPEC 461 Aircraft Green Paint Does Not Meet Comanche Established Requirement
δ.	LO Die le ctric High Strength Materials	AV RDEC – AATD (Mat Dinning) 757-878-2361	W	Material Design Required to Overcome High Frequency Skin Limitations and Improve RCS Performance Over Baseline Sk



Comanche Technology Challenges Status (3-6-97)

No.	Top Q Te ch Challenges	Asa ig ned Government Organization	6la tu a	Technology lasus
7.	Aluminum Berytlium A.Khium Aluminum	AV RDEC -AAT D (Michael Galvas) 757-878-5732	₿	Corrosion Protection Coating Technology and Methods For Application of Coatings
8.	Regime Recognition, Safe-Life and Damage Tolerance (Usage Monitoring)	AVRDEC (Jack Tanney) 757-878-5602	0	Regime Recognition Integration and Risk ReductionRegime Recognition Application to Usage Monitoring
9.	ECS/Regenerative Filters	AV RDEC - AATD (Kevin Nolan) 757-878-5875	W	Gurrent Pressure Swing Absorber (PSA) Filter Failed to Meet Established Performance Requirement

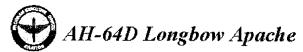


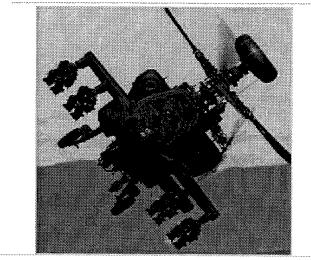
- · Description: Aircraft development contract for the RAH-66 Comanche.
- Sole Source-Boeing/Sikorsky
- Value: \$1.7B
- POC: Carolyn Orf (205) 842-7743

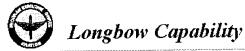




- · Description: Engine development contract for the RAH-66 Comanche.
- Sole Source-LHTEC
- Value: \$227M
- POC: Carolyn Orf (205) 842-7743









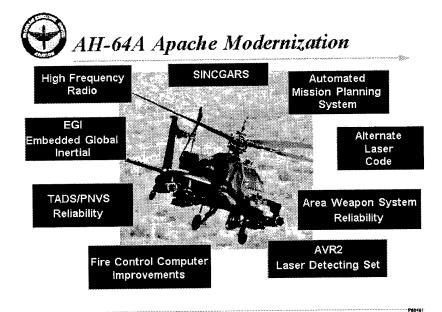


Air Targeting

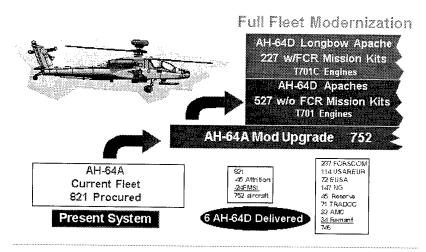
Longbow Apache Provides:

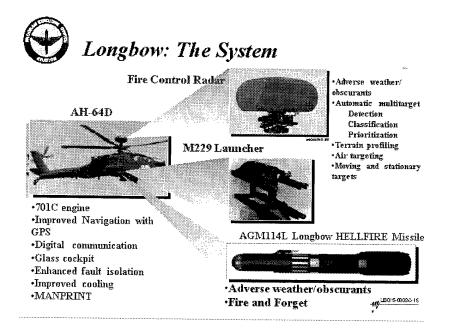
- Automatic target detection, classification, and prioritization
- Adverse weather precision strike capability
- Multi target engagement capability
- Fire and forget capability
- Destruction of Enemy Air Defense

Ground Targeting











- Top five technical:
 - Improved Sensors
 - -Digitization
 - Software Acquisition/Support Under Commercial Practices
 - Propulsion / Drive Train Upgrades

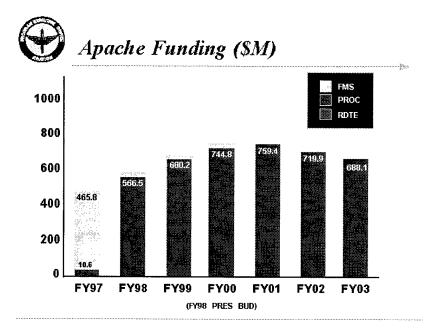
P70901

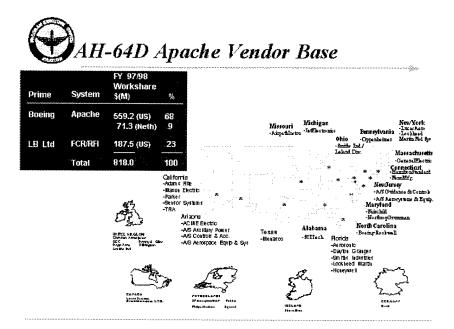
P70901

- Airframe Life Extension



- Top five technical:
 - Improved Sensors
 - -Digitization
 - Software Acquisition/Support Under Commercial Practices
 - Propulsion / Drive Train Upgrades
 - Airframe Life Extension







(AH-64D Longbow Production)

- Description: Multi-year contracts for production of the AH-64D ٠ Longbow.
- · Sole Source-Boeing/Multiyear
- Value: \$4.9B
- POC: Joanne Kennedy (205) 313-4029



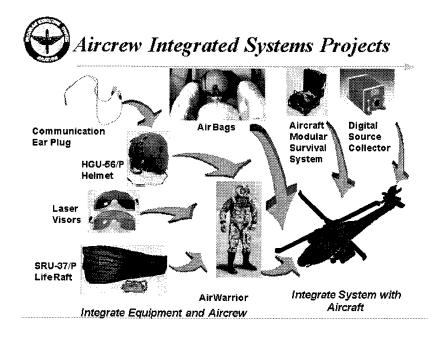
· Description: Multi-year contract for production of the AH-64D Longbow Fire Control Radar.

- Requires Congressional Approval
- Award Date: Dec 97
- Sole Source-Lockheed/Martin ٠
- Value: \$533M
- POC: Joanne Kennedy (205) 313-4029



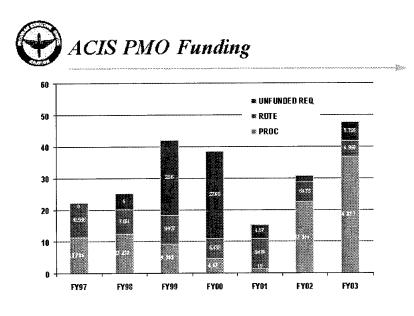
(AH-64D Radar Frequency Interferometer)

- Description: Multi-year contract for production of the AH-64D Longbow Radar Frequency Interferometer.
 - Potential contract in negotiations
 - Award Date: Dec 97
- Sole Source-Lockheed/Martin
- Value: \$92M
- POC: Joanne Kennedy (205) 313-4029





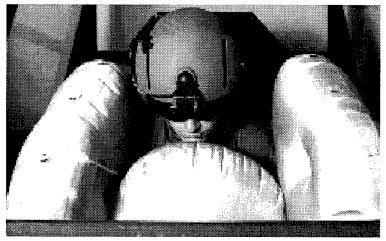
			7/98 SHARE	
PRIME	<u>SYSTEM</u>	\$(M)	<u>%</u>	
Gentex	AIHS	5.994	12	
Simula	CABS	27.138	55	The 18
Motorola	Air Warrio	r 6.868	14	
AOtec	JALEPV	4.215	8	
Production Products	CEP	0.100	<1	
Smiths Industries	DSC	0.100	<1	~
Programmatic and Technical Support	Ali	4.337	9	
	TOTAL	48.752	100	t - (ka)





- Light Weight Helmet Mounted Display Components
- Air Bag Gas Generators
- Weight and Bulk Reduction
- Heat Stress (Eliminate) for Air Warrior Components
- Significant O & S Savings from Digital Source Collector

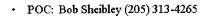






(Digital Source Collector (DSC) Production)

- Description: The Digital Source Collector is a multifunction data recorder which will simultaneously acquire and process flight performance, aircraft structural, engine, and drive train electronic data, and voice interchanges during flight.
- Award Date: October 98
- Competitive-COTS
- Value: \$72M





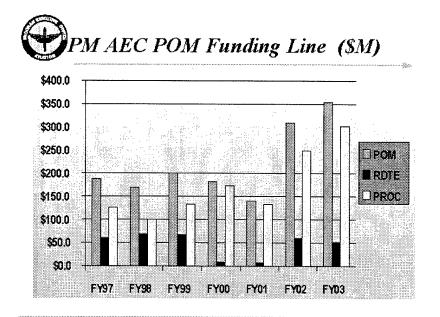


- Description: AW is the rotary wing aviation focus for providing a mission tailorable system that standardizes and integrates Aviation Life Support Equipment (ALSE) for aircrews during flight and ground operations. Some portions of the system will interface with aircraft-mounted equipment and will require integration through a common interface and designed-in compatibility.
- Award Date: October 98
- Competitive
- Value: \$92M
- POC: Paul Bippen (205) 313-4263

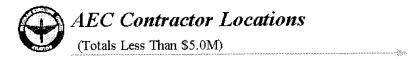


(Air Warrior (AW) Phase II Development)

- Description: AW is the rotary wing aviation focus for providing a mission tailorable system that standardizes and integrates Aviation Life Support Equipment (ALSE) for aircrews during flight and ground operations. Some portions of the system will interface with aircraft-mounted equipment and will require integration through a common interface and designed-in compatibility.
- Award Date: October 98
- Competitive
- Value: \$92M
- POC: Paul Bippen (205) 313-4263



		Ce	m	tre	acto	r Location By State
CONTRACTOR ABBURANCE TECH CORP	PROGR.40 A2020,040 X01,040,040	FYB \$	77F YBC 22,011	ST N A	% 7.5%	
	TF XX0 OP3		61.67		1.2%	
ASTROHALITICS BOEING (FDHB)	ATRUL, ATTRON , A HAR C-220, I DI	•	16,962	1 0	124	DY-HSR. A
C/45	AHAR C-ZIL, ADRON		2,701	A	8.0%	1 The The The
D YHCORP	AHAR C-220, Ahaur 2 A, Op3, Auris A	•	18,762	тх	4.7%	
GEC S ARCOHI	GP3		16,155	LH	4.7%	
NOREYWELL	OF3	1	120	FL	1.2%	
HUGHES, DAHE URY	AHOUR 2A	1	79 S	ст	2.7%	
iπ	ATRAL, AHVARC- 220		29,63	HJ	10.1%	
LOCKH EED BANDERS	ATIRO		5,271	H H	12.9%	The second se
ROCHWELL INTL	108 AHAR C-164 AHAR C-220 ABP3	•	45,440	ia.	11 <i>1</i> 74	e b
AC	AH&R C-164, TF 200, A2028, ABF2		12,669	CA	4.04	ONLY CONTRACT TOTALS GREATER
SIKONSKY	ARC-220		2009	cr	2.7%	THAN \$5M SHOWN
a vii et nica	IDE	6	ZJ 16	FL	2.2%	
THC W SICS	A2028_AH/ARC+ 164_AH/ARC+ 220_TF X01_ 111	1	10,023	80	#1 8	



CONTRACTOR.	ROGRA	FYB?FYB	at	- 4	CONT RACTOR	PROG RAM	FY 67/FY 82	31	۹6
EL INDUSTRES	AHYARUC-104	6 73	PA	0.0%	180AD - RAYTHED N ESYS	A#/0.RC-220	1 1.424	KY	0.7%
4.LED SCH 4.	ASC 28 TF XXI	¢ 250		0.4%	LITTON	AM P3	8 434	GA	0. 196
HUHC	ARC-220	• •	-		LOCAL ECONOMY (ST LOUIS)	TF 331	•		
the second se	##/#KG-778	6 F60	80	B.1%	A		€ .201	MO	80.046
ELL NELICOPTERS TEXTROS	MR/MU225	6 4,000	τx	0.9%	LOCK BEED MARTIN FED	A#/ARC-220, 10M	1 2.270		0.4%
DENG SINORSKY AC SUPT	AWARC-22	6 IO	TH	0.0%	IOCKREED MARTIN LOG	4 8/4 RC-228	•	530,51 530,51	9,419
REER	ATRJ, ATRCS	1 8. T.E.	1.00			IOM	1.119	18	0.946
	17:00	5 602	AL	0.1%	MANTECH	ARC-228	s 531	s Silitator	0.176
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AFARC	15:300	6 (SS	80		BART BIAD	AN PE OPS	C	AL	0.67.8
HOMEERING & FROFENDINAL BUCS	ARR_ARA			200 a 1928 a			\$ 2,667	鄭	1.44
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	1.100.000 X 2.200.000	6 119		£5%			\$ 4,460	FL	5.9%
LIGHERD OPENSE CORR	98/ 9 6-166	6 560	а.	1.7%	TRICKOL	AJROMM	1 2,750	AL	0.6%
TREE ARCH BUTTUTE	AHLANG-728				UND LEAK BERVICES, INC	A 8/ARC-164,			
		1	Ц.	£.1%		A N/A.RC-528	8 84	05	0.9%
NONABLE CONCEPTS BC	942.490.330 ₄				VIT ROWCE	100	4 439	- 1	0.19
		4 W12	UA.	8.7%	WEITAR	IF #8, AND.80-	•		
N BOOH	AK/ARC-335	t 100	88	8.# \		920, AT RJ,			
						o pri, tom	\$ 1, 0 8	194	0.2%

١o.	Technology Challenge	Assigned Gov't Organization	Status	Technology Issues		
1.	Broad-Band Laser Sources For Infrared Missile Jamming	NVESD (Dr. Joe O'Connell) 908-427-4870	Y	Current Lasers Operate Naturally at Only a Few Specific Wavelengths in the Infrared		
2.	Integrated Obstacle Avoidance System	NVESD (Dr. Joe O'Connell) 908-427-4870	Y	In Order to Detect and Avoid Wires at NOE, a High Repetition Rate Laser Radar Technology is Required		
3.	Micro-Electronic Miniaturization	CECOM RDEC	Ŷ	Electronics That Can Withstand Extreme Military Environments		
4.	Increasing Antenna Effectiveness	CECOM RDEC (John Prorok) 732-427-3548	Ç.	The Close Proximity of Many Antennas on Platforms Results in "Co-Site" Interference Problems		



- Description: Hardware procurement of the AN/ARC-220, VRC-100, and maintenance trainers. The AN/ARC-220 is an HF radio that will provide secure and non-secure voice and data communications.
- Award Date: 2nd Quarter, Fiscal Year 98
- Sole Source-Rockwell Collins
- Value: \$21.9M
- POC: MAJ Crabb (205) 313-6608



- Nag



Contracting Opportunities (AN/ARC-220)

- Description: Aircraft integration kits for UH60, AH64A/D and OH58D.
 - Award Date: 3rd Quarter, Fiscal Year 98
- Sole Source (aircraft manufacturer)
- Value: \$17.3
- POC: MAJ Crabb (205) 313-6608





- Description: EMD and programmatic support for ATIRCM. ATIRCM is an airborne system which provides infrared homing protection to the aircraft by detecting and defeating approaching anti-aircraft missiles.
- Sole Source-Lockheed Martin/Sanders
- Value: \$21.8M
- POC: Dr. Messervy (205)313-1049

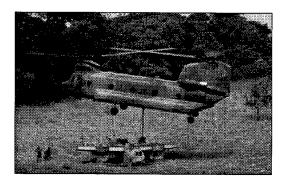


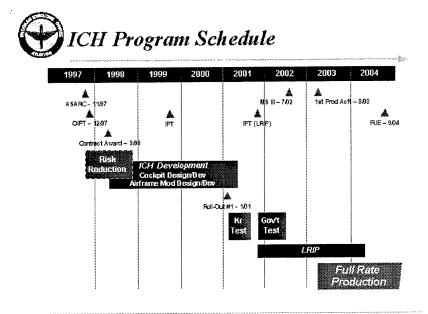
Contracting Opportunities (Improved Data Modern (IDM))

- Description: Hardware procurement of the IDM. The IDM is a multiservice, interference-resistant modem.
 - Award Date: October 98
- Competitive
- Value: \$18-25M
- POC: Mr. Tim Floate (205) 313-0638



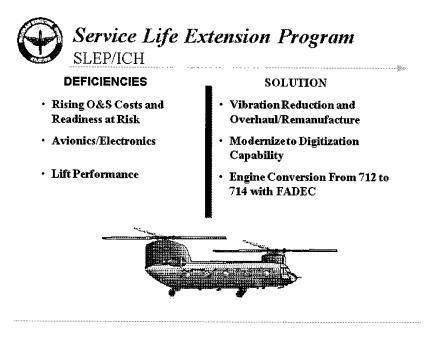








	MS II ▼				MS III 1st Delivery ♥ ♥					
FY	97	98	99	00	01	02	03	To Complete	Total	
RDT&E	17.1	22.6	28.8	8.2	1.0			0.0	77.7	
Procure				29.2	77.1	229.7	235.7	2,837.1	3408.8	
Sub Total	17.1	22.6	28.8	37.4	78.1	229.7	235.7	2,837.1	3486.5	
Quantity						12	18	270	300	





- Description: Design and implement a modernized cockpit compatible with the future "digitized battlefield." The cockpit will feature longrange precision navigation and communication, open system architecture, and compatibility with Aviation Mission Planning System.
- Sole Source: Boeing
- Value: \$300M
- POC: Cliff Karvinen (205)-313-4308



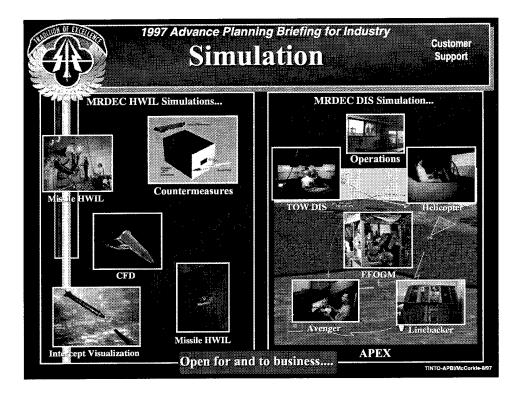
Contracting Opportunities (Cargo Helicopter Training & Simulation Devices)

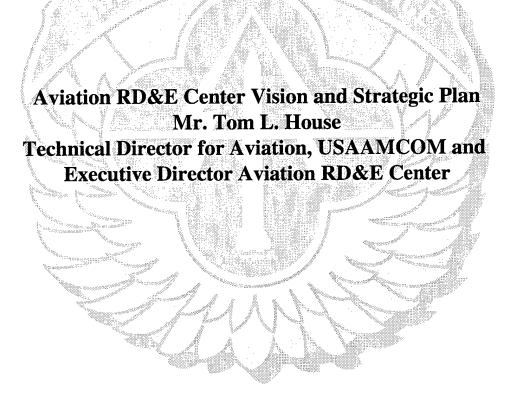
· Description: Update existing trainers and provide new cockpit and maintenance trainers for the Cargo Helicopter.

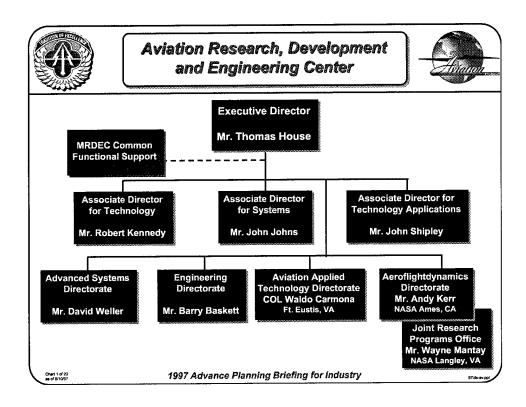
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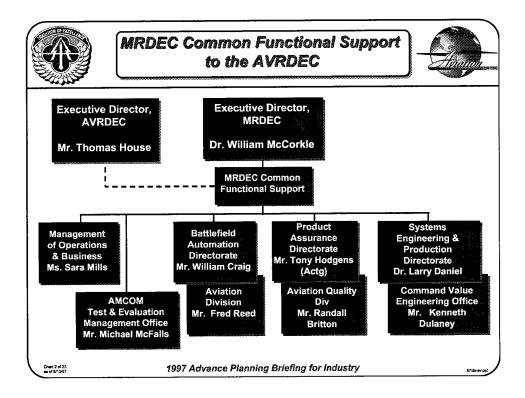
- Competitive ٠
- Value: \$100M
- POC: Cliff Karvinen (205) 313-4308

Missile RD&E Center Vision and Strategic Plan Dr. William C. McCorkle Technical Director for Missiles, USAAMCOM and Executive Director Missile RD&E Center

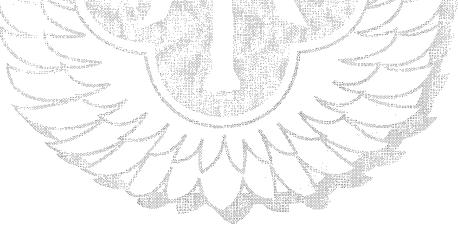




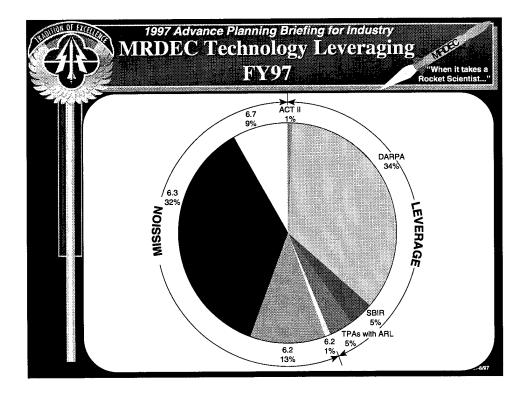




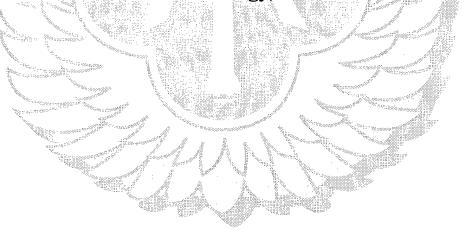


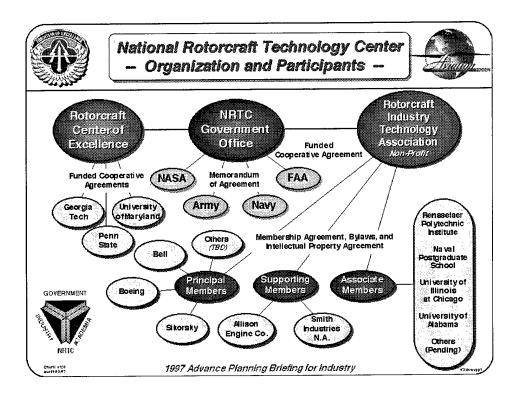


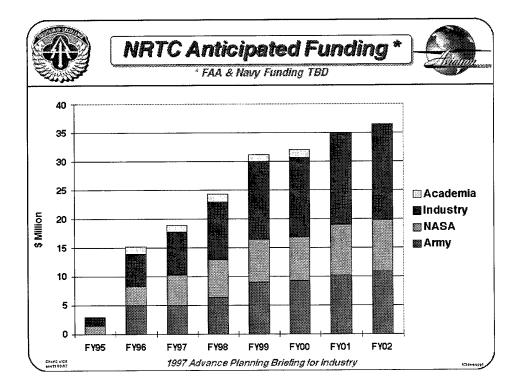
	nced Cono POC List		"Wi Rocke
Concept UGV/S - RWC - SCORPION - Fire & Forget - Program 559	POC Ms. Suzy Young	Branch Concepts	Phone (205) 876-5663
RADS	Mr. Robbie Roberson	Deep Battle	(205) 876-3660
SCORPION (M270 Replacement)	Mr. Robbie Roberson	Deep Battle	(205) 876-3660
Adaptive Missile	Mr. Robbie Roberson	Deep Battle	(205) 876-3660
2.75" Guided Rocket / Missile	Mr. Forrest Ruble	Deep Battle	(205) 842-8765
LDADS	Mr. Monte Hollowell	Deep Battle	(205) 876-9056
CLAWS	Mr. Mike Wicks	Deep Battle	(205) 876-7459
LOSAT P3I	Mr. Charles Jones	Close Battle	(205) 876-1248
BLASTER	Mr. John Fulda	Close Battle	(205) 876-8478
Powered Submunition	Mr. Jim Dinges	Deep Battle	(205) 876-9276
HI-QUAMS	Mr. Jim Dinges	Deep Battle	(205) 876-9276
Virtual Reality	Mr. Jerry Evans	Plans	(205) 876-2357



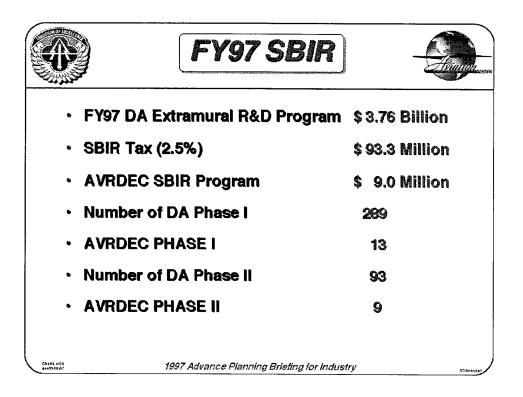
Aviation RD&E Center Contract Opportunities Mr. Robert V. Kennedy Associate Director for Technology, Aviation RD&E Center



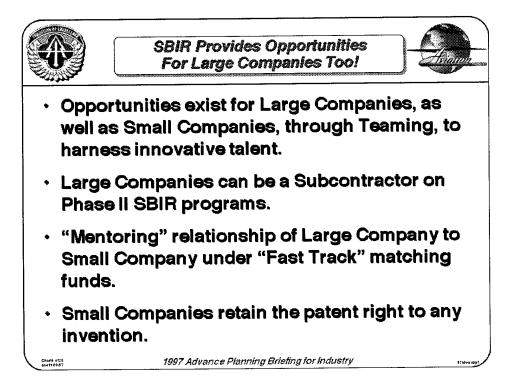












	Å	VRDEC S&T Programs	Harden
	3rdGARD	Third Generation Advanced Rotor Design	
	ACTD	Advanced Concept Technology Demonstration	
43	ALEBT	Air/Land Enhanced Reconnaissance and Targeting	
\$	AMUST	Airborne Manned/Unmanned Systems Technology	
*	ARCAT	Advanced RotorCraft Aeromechanics Technology	
*	ART	Advanced Rotorcraft Transmission	
e.	ATD	Advanced Technology Demonstration	
×.	AWE	Advanced Warlighting Experiment	ľ
8	BHAW	Brilliant Helicopter Advanced Weapons	
\$	FMTI	Future Missile Technology Integration	
8	HACT	Helicopter Active Control Technology	
*	HQ	Handling Qualities; Headquarters	
*	ICT	Integrated Concepts Team	
*	IPT	Integrated Product Team	
~	JTAGG	Joint Turbine Advanced Gas Generator	
*	JTR	Joint Transport Rotorcraft	
¢	LCPK	Low Cost Precision Kill (2.75" Guided Rocket)	
	RACE	Rotorcraft Air Combat Enhancement	
*	RAST	Rotorcraft Attack System Technology	
*	RPA	Rotorcraft Pilot's Associate	
*	RWSTD	Rotary Wing Systems Technologies Demonstration	
*	SLAIR	Survivability/Lethality Armament Integration in Rotorcraft	
-81	STAS	Subsystem Technology for Affordability & Supportability	
©	STIRR	SubsystemTechnology for InfraRed Reduction	
Charl? ofcs		1997 Advance Planning Briefing for Industry	17141010001

WORK UNIT TITLE: Rotary Wing Technology Demor PERFORMING ORGANIZATION: AATD-AMCOM POC/PHONE: Mr. Jon Schuck, (757) 878-4304/DSN 9	
OBJECTIVES: • Demonstrate Rapid, Low Risk Development of Aflordable, Efficient Rotorcraft Airframes Incorporating Quality Structural Concepts That Fully Exploit Advanced Composite Materials' Strength and Cost Capabilities. TECHNICAL CHALLENGES: • Accurate, Rapid Analysis, Modeling & Simulation. • Multi-Disciplinary Design Optimization for Efficiency. • Confidence in Extensive Bonding/Cocuring Assys. • Accurate, Affordable Sensors and Cure Algorithms. • Lean, Highly Capable Processes.	APPROACH: o Select Major Airframe Subassembly With Chronic Documented Performance and Attordability Issues. o Demonstrate Accelerated Development Using Highly Integrated Concepts Analysis Tools. o Rapid Selection of Innovative, Efficient, Affordable Structural Concepts. o Development Using Prototype. o Conduct Extensive Coupon/Elemental Level Tests to Validate Virtual Prototype and Mitigate Rist. o Fabricate Rull-Scale Assemblies to Validate Virtual Prototype Design. o Demonstrate Attainment of Exit Criteria via Testing.
SCHEDULE TASKS FY 97 98 99 00 01 Metrics/Exit Criteria Image: Concept Selection Image: Concention Image: Concention	DELIVERABLES: FY98 DELIVERABLES: o Integrated Development System Architecture for Rapid Concept Selection and Analysis. FY99 DELIVERABLES: o virtual Manufacturing and Structural Prototype Validation. o Advanced Structural Concepts' Coupon/Element Fabrication and Test. TECH OBJECTIVE SUPPORTED:
Full-Scale Fabr Demonstration Testing	o horeased Structural Efficiency. o Reduced Manufacturing Labor.

OC/PHONE: Mr	. Bob Buckan	, v					
Weapons System o Techniques for o Inadequate Air 1	en RW Rly-By-Wire F e Probability of Enc Due to Flight Control n Weapons Pointing neuverability and Ag light Control System <u>-ENGES:</u> dge of Optimal R num Runctional I ns, and Pilot Inte Sensing Limit Or	CS. countu Syst Accu gility. n Fligi otoro nteg erfac set : ; FC:	ering iracy. ht Tes craft ratio e. and (S Des	Degra FCS) F at Dev Resp n of Cueit	r Time Failur 7 Time Pons FCS ng P	e. e. se	 <u>APPROACH:</u> o Integrate State-of-the-Art Rotary Wing Flight Control Technologies. o Exploit Advanced Fixed Wing Flight Control Architectures and Fly-By-Light Hardware. o Substantial Industry Participation. o Use Simulation to Evaluate Candidate System Configurations. o Use Iron Bird Integration to Reduce Rist. o Demonstrate Benefits In Flight Whenever Possible.
	SCHEDULE						DELIVERABLES:
TASKS RFP & Award Con- Integrated Conce Preliminary Design Detailed Design Fabrication Installation Ground and Fligh System Documer	pts Simulation gn it Test	98	99	00	01	02	 10% Increase in Maneuverability & Agility. o CHPR4 or Better for Critical MTEs. a0% Increase in Weapons Pointing Accuracy. o Demonstrate ADS-33 Compilance. TECH OBJECTIVE SUPPORTED: o 00% Reduction in the Probability of Encountering Degraded Handling Qualities Due to FCS Failure (56%) o 80% Improvement in Weapons Pointing Accuracy (75%) o 50% Reduction in Right Control System Flight Test De velopment Time (60%)

ERFORMING ORGANIZATION: AATD-AMCOM OC/PHONE: Chandon W. Davis, (757) 878-016	
BJECTIVES: o Increase the Life of Fatigue Limited Components in Control System of the Main Rotor. <u>ECHNICAL CHALLENGES:</u> o Composite Attachments. o Multi-Axis Loading of Composite Components.	APPROACH: o Select Several Fatigue Limited Components in an Existing Main Rotor. o Redesign for Composite Material. o Conduct Coupon Testing to Determine Fatigue Life. o Demonstrate Fatigue Life on Full Composite Components.
SCHEDULE	DELIVERABLES:
TASKS FY 97 98 99 00 Component Selection and Analysis Image: Composite Redesign Image: Composite Redesign Image: Component Selection and Component Selectin and Component Selection and Component	01 FY98DELIVERABLES: o Composite Component Design Properties. o Composite Tourponent. FY99DELIVERABLES: o Composite Main Rotor Component. TECH OBJECTIVE SUPPORTED:
Component Fabrication	o Increased Structural Efficiency.

WORK UNIT TITLE: Ballistic To PERFORMING ORGANIZATION POC/PHONE: Mr. Nicholas J. C	: A	ATC	-AN	100	M	3-3303/DSN 927-3303
OBJECTIVES: • Evaluate the Z-Pinning Technology for Enhancing Ballistic Tolerance. • Investigate Z-Pinning as a Potential Replacement of Mechanical Fasteners at Selected Locations. TECHNICAL CHALLENGES: • Bhance Interlaminar and Peel Strength of Composite Structures. • Reduce Use of Mechanical Fasteners.						 APPROACH: Design and Fabricate Helicopter Representative Primary Structures With and Without Z-Pinning. Conduct Baseline Stiffness Static, 23nm HEI Ballistic, and Post Ballistic Testing on Both Type of Specimens and Compare Strength Results. Conduct Static Testing of Coupon Specimens of Bonded Sub-Structures, Bonded Reinforced with Z-Pinning, and Bonded and Reinforced With Mechanical Fasteners. Compare Results.
SCHEDULE		-				DELIVERABLES:
TASKS FY	97	98	99	00	01	FY99 DELIVERABLES: o Component Design and Fabrication. o Coupon Specimen Fabrication.
Structural and Ballistics Analysis Tooling Design and Fab Component and Coupon Fabrication						FY00 DELIVERABLES: o Component Static and Ballistic Testing. o Coupon Specimen Testing. TECH OBJECTIVE SUPPORTED:
Testing				E		o Increased Structural Efficiency. o Reduced Manufacturing Labor Hrs/Lb.
Final Report					▲	

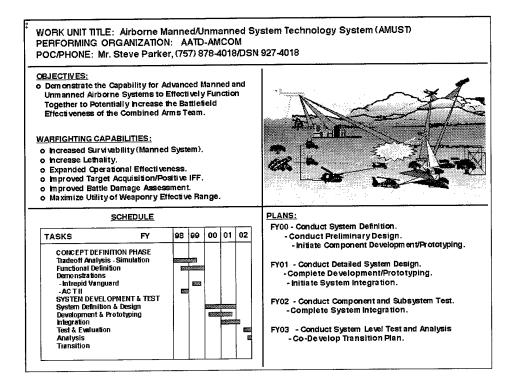
WORK UNIT TITLI PERFORMING C POC/PHONE: Mr	RGANIZATION	: AA	TD-AN	ICOM		rols & Diagnostics (DAACAD) Program 17-2400
OBJECTIVES: o Improve Digital Turboshaft Engi TECHNICAL CHALI o Stability vs Res	nes. LENGES:	chnolo	egy for		APPROACH: o Integrate Arm y Adaptive Fuel Controls Features Into Advance Control. o Improve Diagnostics Capability & Integrate With ATEDS Type Format. o Integrate Active Combustor & Active Stall/Surge	
o Cost, Weight, In		Comp	onents	l.		Control.
TASKS Design Fabrication	FY	98 6	00 00	01 0	2	 Software/Hardware Package to be Integrated and Demonstrated in Advanced Full-Up Engine Program.
RigTest Analysis Final Report						TECH OBJECTIVE SUPPORTED: o Improved SFC/Performance. o Improved R&M, Survivability. o Lower Cost and Weight.

<u>JECTIVES:</u> Develop High Te urboshaftEngir			APPROACH: o Utilize Advanced Cooling Scheme. o Apply Advanced 3-D CFD Tools to Provide High Performance and Durability.			
CHNICAL CHALL Low Pattern Fac High Temperatur Durability. Operability. Cost & Weight.	tor.					
ooat a meight.	SCHEDUILE					DELIVERABLES:
	SCHEDULE FY	98 99	00	01	02	DELIVERABLES: o Award CRDAin FY99.
TASKS	FY		9 00	01	02	
TASKS Pero/Mech Design	FY				02	

BJECTIVES:							APPROACH:
o To Develop Advanced IR Paints/Coatings That are Compatible With RAM/RAS Structures. IR & RF Transparent Binders. IL ove Errissivity, Low Dielectric Pigments. Encapsulated Netal Pigments. Microsphere/Microbalion Pigments. ImprovedControloThermal Emissions and Solar Reflections. TECHNICAL CHALLENCES: Current Low Errissivity IR Coatings Rely Heavily on Netal Pigments Which Can Be Highly Reflective to RF Energy that Conductive Path is Established Between These Netal Flakes. Mean San Structure Solar Grangy Which Causes High Levels of Solar Gint From Painted Surfaces. 						 Evaluate and Test Current Binder Systems for IR and F Transmission. Evaluate and Test Low Dielectric and Encapsulated Metal Pigments for IR Emissivity and RF Transmissivit o Evaluate and Test Microsphere/Microbalion Pigments for IR Emissivity and RF Transmissivity. Evaluate and Test Advanced Coating/Structure System for Emission and Reflection Control. Mix and Test Candidate Coating for Panel Testing of RF Transmission, IR Emission, and Optical BRDF. Flight Test Coatings on Aircraft With Thermally Loader RAM/RAS Structures. 	
<u>S(</u>	CHEDULE						DELIVERABLES:
TASKS	FY	97	98	99	00	01	o Advanced IR Coating System That Can be Applied to RAM/RAS Structures.
Evaluate and Test	Binders Pigments tion.IR						 Advanced IR Coating System That Can Reduce the So Glint Produced With Current Low Emissi vity Coatings. Flight Test Data Including Acquisition and Lock-On Ranges With and Without Advanced Coatings.

WORK UNIT TITLE: Advanced Combustor PERFORMING ORGANIZATION: AATD-AMCOM POC/PHONE: Mr. Robert Bolton, (757) 878-3977/DSN 927-3977							
OBJECTIVES: o Develop High Temperature Combus Turboshaft Engine (3000 SHP Class		ra			APPROACH: o Utilize Advanced Cooling Scheme. o Apply Advanced 3-D CFD Tools to Provide High Performance and Durability.		
TECHNICAL CHALLENGES: o Low Pattern Factor. o High Temperature Capability. o Durability. o Operability. o Cost & Weight.							
SCHEDULE					DELIVERABLES:		
TASKS FY 9	8 99	00	01	02	• Award CRD Ain FY99.		
Aero/Mech Design FAB					TECH OBJECTIVE SUPPORTED:		
Hot Rig Test					 High Inlet and Outlet Temperatures. Low Pattern Factor (0.10). High Power/Weight Ratio. Reduced Cost. 		

[‡] Work Unit Title: Performing ord Poc/Phone: Mr. Je	ANIZATION	N: A	Aπ)-AN	ACO	M	
OBJECTIVES: o Demonstrate the Re Weaponization Tec Air-to-Air Capability Airborne Threats ar Forces.	hnologies Th / for Arm y Ar	nat Pr viatio	ovid n to	e En Defi	eat	ed:	
WARFIGHTING CAPAE o Improved Survivabi o Enhanced Multimis o Increased Weapons	lity. sion Role.						
<u>50</u>	HEDULE						PLANNED ACCOMPLISHMENTS:
TASKS	FY	01	02	03	04	05	 FY01 - Conduct Preliminary Design & Review.
Prelim Design Prelim Design Review Detailed Design Detailed Design Rev HDW Fabrication Software MODS A/C Integration Flight Demos Final Review	N						 -Initiate Detailed Design. o FY02 - Complete Detailed Design & Review. -Initiate Hardware Fabrication. - Initiate Software Modifications. o FY03 - Complete Hardware Fabrication. - Continue Software Mods. o FY04 - Complete Software Mods. o FY04 - Complete Software Mods. - FY05 - Complete Aircraft Integration. - Conduct Flight Demos. - Conduct Final Review.



Redstone Technical Test Center (RTTC) Test and Evaluation Command Ms. Sharon Muller-Myers Contract Specialist, RTTC

1997 APBI AGENDA

U.S. ARMY AVIATION & MISSILE COMMAND

ADVANCE PLANNING BRIEFING FOR INDUSTRY

MONDAY, OCTOBER 20, 1997

1300 - 1600 EARLY REGISTRATION - SPARKMAN AUDITORIUM (Bldg. 5304)

Registration - Sparkman Center Auditorium (Bldg. 5304)

TUESDAY, OCTOBER 21, 1997

0730 -

0815 -	Administrative Announcements
	Ms. Tammy S. Williams, Acting Technical Industrial Liaison,
	Technology Integration Office, Missile Research,
	Development, and Engineering (MRD&E) Center, U.S. Army
	Aviation & Missile Command (USAAMCOM)

0820 - Welcome MG Emmitt E. Gibson, Commanding General, USAAMCOM

0835 - U.S. Army Aviation & Missile Command Overview Mr. John M. Moore, Resource Management Directorate

0905 - BREAK

- 0930 Deputy for Systems Acquisition BG Robert E. Armbruster, Deputy for Systems Acquisition
- 1015 Program Executive Office for Tactical Missiles (PEO-TM) Ms. Vicky L. Armbruster, Deputy Program Executive Officer, Tactical Missiles
- 1100 **Program Executive Office for Air & Missile Defense (PEO-AMD)** *Mr. A. Q. Oldacre,* Deputy Program Executive Officer, Air and Missile Defense
- 1145 LUNCH at the Redstone Officers' Club Dr. Michael Andrews, Director for Technology Office of the Assistant Secretary of the Army Research, Development, and Acquisition
- 1345Program Executive Office for AviationMr. Paul Bogosian, Deputy Program Executive Officer, Aviation

1415 - **TRADOC Keynote Address** *COL Mark P. Gay*, Director, Future Battle Directorate, U.S. Army Training and Doctrine Command

1500 - BREAK

1530 - Missile RD&E Center Vision and Strategic Plan Dr. William C. McCorkle, Technical Director for Missiles, USAAMCOM and Executive Director Missile RD&E Center

- 1615 Aviation RD&E Center Vision and Strategic Plan Mr. Tom L. House, Technical Director for Aviation, USAAMCOM and Executive Director Aviation RD&E Center
- 1700 Question and Answer Session Dr. William C. McCorkle, Technical Director for Missiles, USAAMCOM, and Executive Director Missile RD&E Center

1800 - Reception - Redstone Arsenal Officers' Club

WEDNESDAY, OCTOBER 22, 1997

- 0800 Announcements Ms. Tammy S. Williams, Acting Technical Industrial Liaison, Technology Integration Office, Missile RD&E Center
- 0805 Missile RD&E Center Opportunities Dr. Paul L. Jacobs, Associate Director for Technology, Missile RD&E Center
- 0845 Aviation RD&E Center Contract Opportunities Mr. Robert V. Kennedy, Associate Director for Technology, Aviation RD&E Center

0930 - BREAK

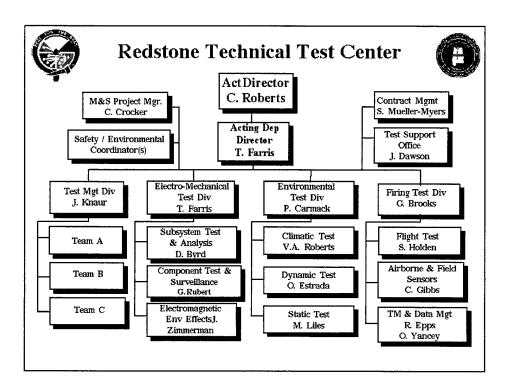
- 1000 Integrated Materiel Management Center (IMMC) Mr. John R. Chapman, Deputy Director, IMMC
- 1015 Redstone Technical Test Center (RTTC) Test and Evaluation Command Ms. Sharon A. Mueller-Myers, Contracts Specialist, RTTC
- 1035 Instrumentation, Targets, and Threat Simulators (ITTS) Mr. Henry I. Jehan, Jr. ITTS, U.S. Army Simulation, Training, and Instrumentation Command
- 1100 Redstone Arsenal Support Activity (RASA) COL Duane E. Brandt, Commander, RASA
- 1115 Resource Management Directorate Mr. William G. Matthews, Deputy Director, AMCOM Resource Management Directorate
- 1135 Air Defense Command and Control Systems (ADCCS) LTC James M. Althouse, Project Manager, ADCCS
- 1150 LUNCH at the Redstone Officers' Club Mr. Laurence H. Burger, Director, U.S. Army Space and Missile Defense Command's Space and Missile Battle Lab

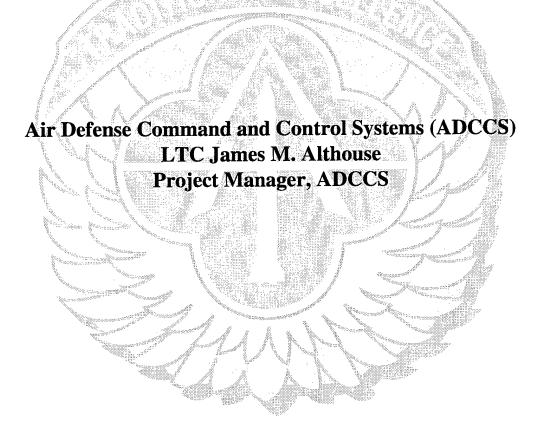
1340 - Acquisition Review Ms. L. Marlene Cruze, Director, AMCOM Acquisition Center

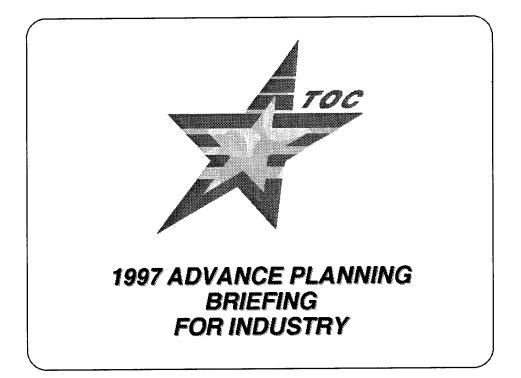
- 1400 Legislative Initiatives AMCOM Legal Office
- 1420 BREAK
- 1450- Command Ombudsman Mr. John W. Finafrock, AMCOM Ombudsman

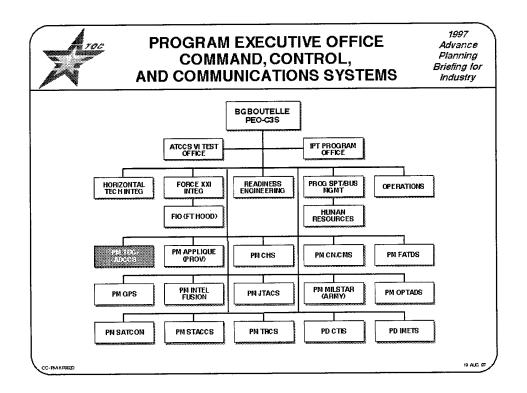
1510 - Small Business Office Mr. John F. Nelson, Small Business Advocate, Small and Disadvantaged Business Utilization Office

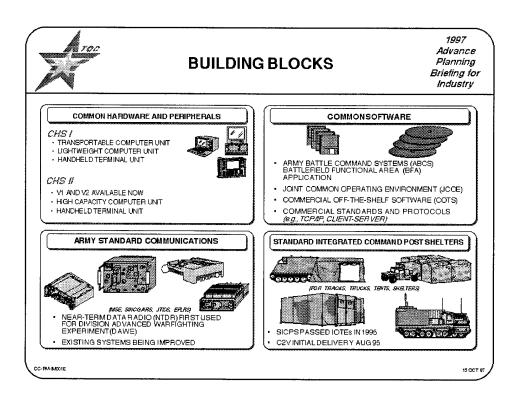
1530 - Question and Answer Session Dr. William C. McCorkle, Technical Director for Missiles, USAAMCOM, and Executive Director Missile RD&E Center



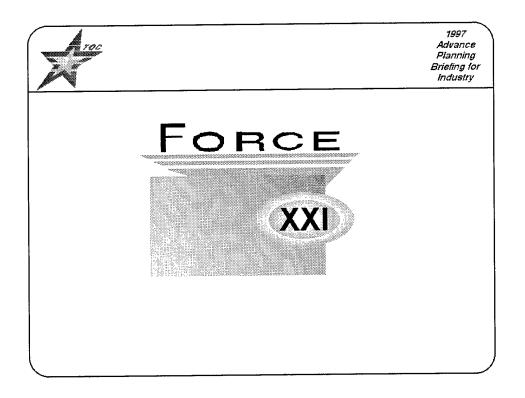


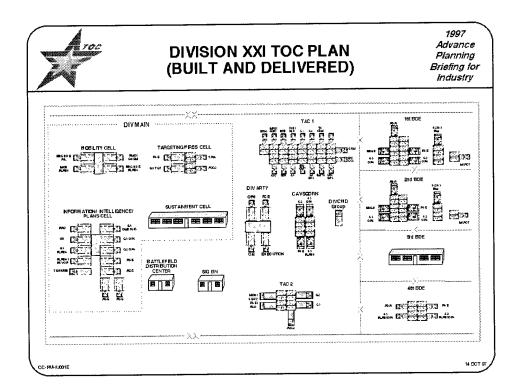


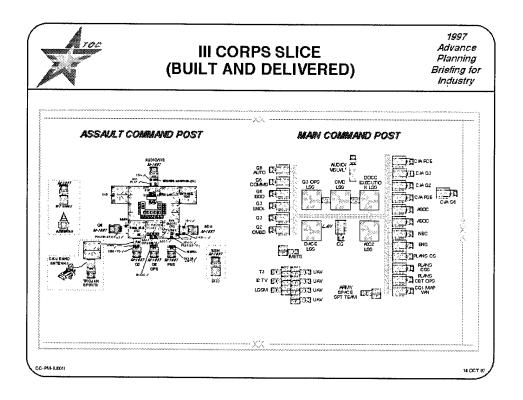


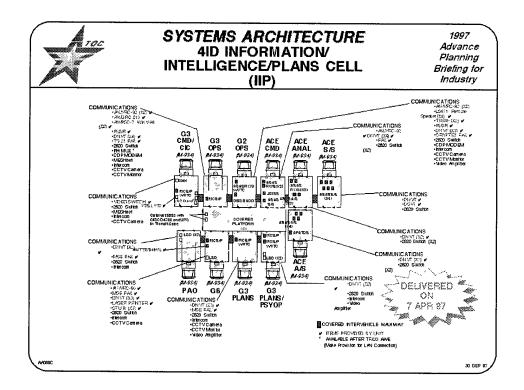


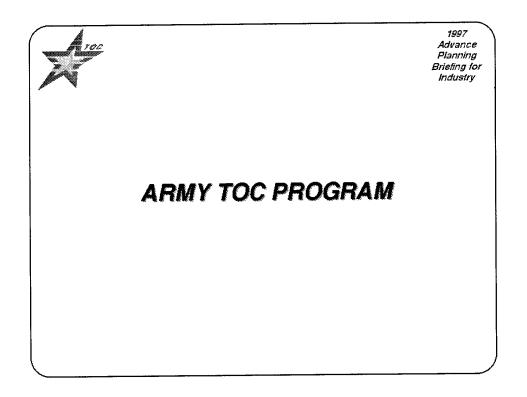


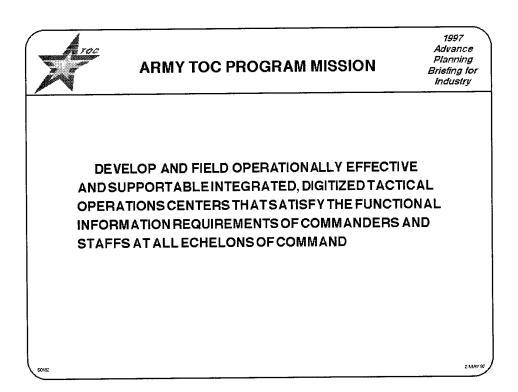


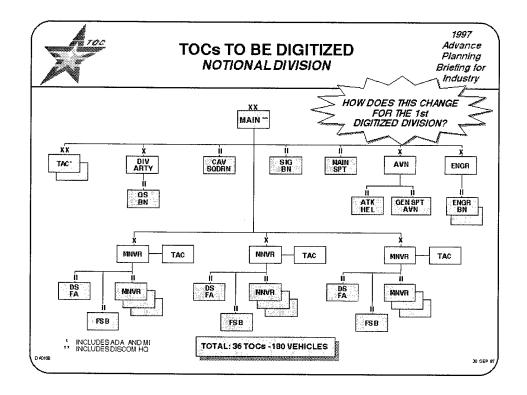




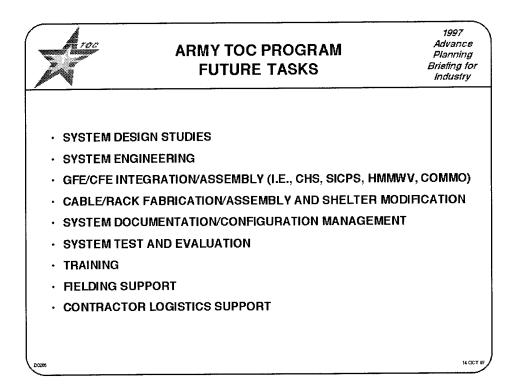








DRAFT F	MY TOC PROGRAM FIELDING SCHEDULE						1997 Advance Planning Briefing fo Industry	
FIELD FIRST DIGITIZED DIVISION BY FY00	FY90	FY99	FY00]>}	UPGRA	SSE 11. 33%		
4ID				HINTEGRATE AND FIELD NEW				
				SUPPORTSUPPORT				
FIELD FIRST DIGITIZED CORPS BYFY04	FY98	FY99	FY00	FY01	FY02	FY03	FY04	
1STCAV DIV							1 2 2 4	
3RDACE								
REMAINDER OF U.S. ARMY								
-TOTAL TOCS UPGRADED		23	0	0	0	0	0	
NEW		20	20	18	30	21	TBD	



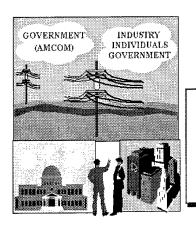
Area A		1997 Advance Planning Briefing for Industry	
<u>OBJECTIVE:</u>	FIRST DI	E FIRST DIGITIZED DIVISION BY FY00 AND GITIZED CORPS BY FY04	
<u>TENTATIVE I</u>	FY98	SUSTAIN DIVISION AWE - CONFIGURED T	OCs
	F Y99-0 0	REFURBISH DIVISION AWE TOCS AND COMPLETE INTEGRATION OF 4th ID	
	FY00-04	INITIATE POM-SUPPORTED ARMY TOC PROGRAM TO DEVELOP AND FIELD FIRST DIGITIZED CORPS (III CORPS, 1CD, 3ACR)	
*ASSUMES FUNDING			
404.05			15 DCT 87







U.S. ARMY AVIATION AND MISSILE COMMAND



MR. JOHN W. FINAFROCK, AMCOM OMBUDSMAN U.S. ARMY AVIATION AND MISSILE COMMAND ATTN: AMSAM-OB BUILDING 5300, ROOM 5145 REDSTONE ARSENAL, AL 35898-5000

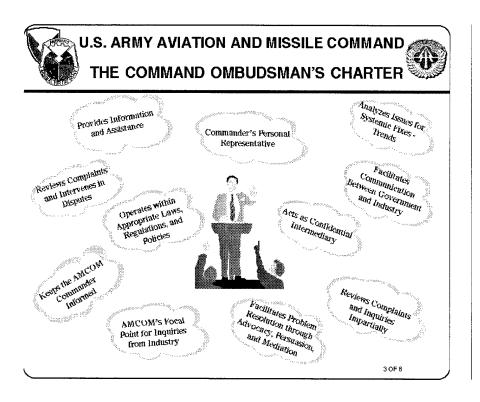
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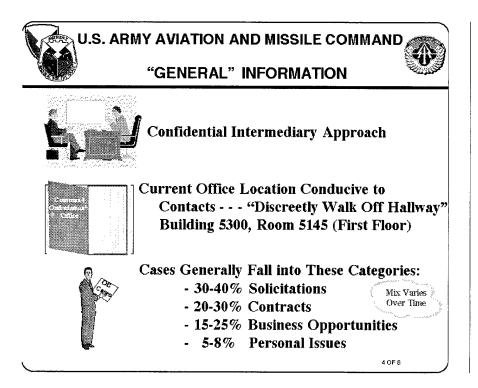
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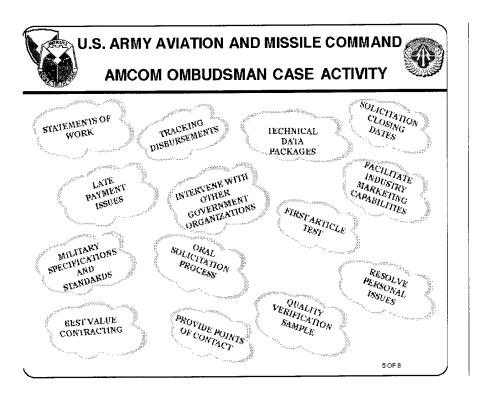
U.S. ARMY AVIATION AND MISSILE COMMAND WHAT'S AN OMBUDSMAN?

"OMBUDSMAN: AN INDEPENDENT SENIOR GOVERNMENT OFFICIAL WITH RESPONSIBILITY TO RECEIVE AND ACT ON INQUIRIES AND COMPLAINTS CONCERNING THE MSC, WHICH ARE BROUGHT TO HIS ATTENTION BY INDUSTRY, THE PRIVATE SECTOR, OR INTERNAL GOVERNMENT SOURCES"

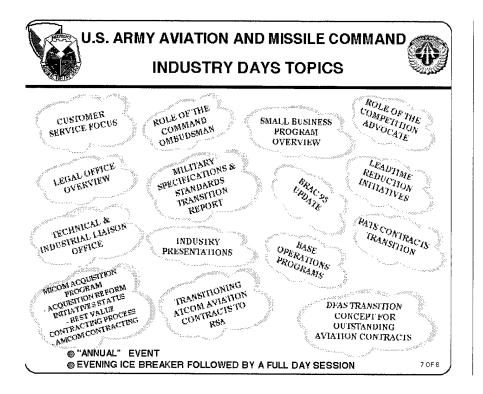
U.S. ARMY MATERIEL COMMAND



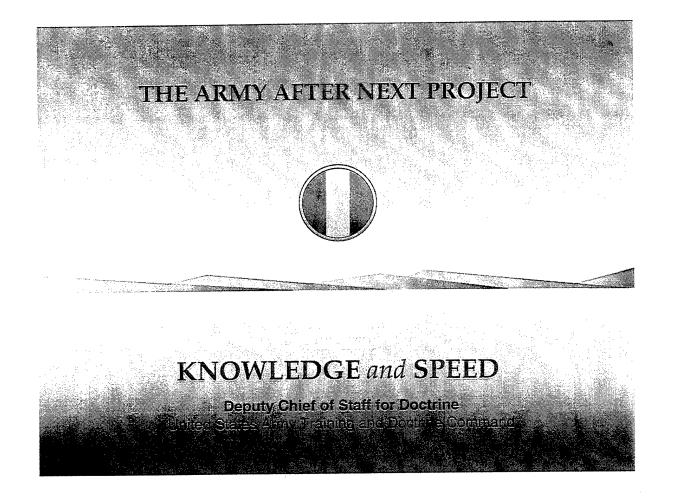








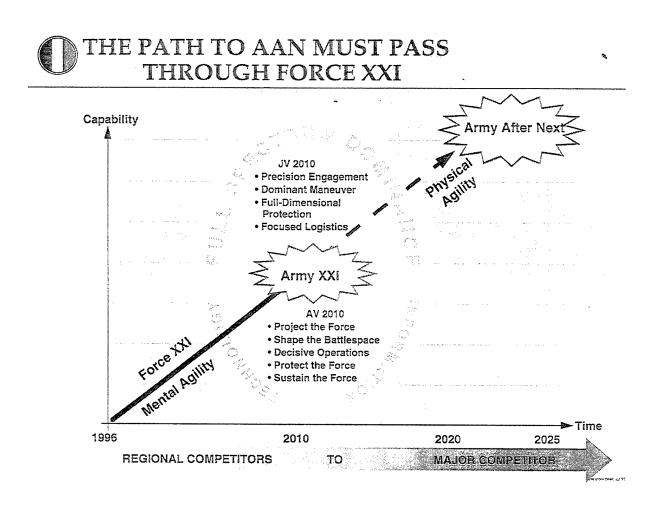
U.S. ARMY AVIATION AND MISSILE COMMAND						
	OMBUDSM	AN PROGRAM				
AMC OMBUDSMAN:	MR LEWIS J. ASHLEY	VOICE: (703) 617-8252 / DSN 767-8252 DATAFAX: (703) 617-1829 / DSN 767-8219 E-MAIL: amcob@alexandria-emh1.army.mil				
IOC OMBUDSMAN:	MR. CRAIG COLLEDGE	VOICE: (309) 782-5880/5379 / DSN 793-5880/5279 DATAFAX: (309) 782-8469 / DSN 793-8469 E-MAIL: amsio-br@ria-emh2.army.mil				
CECOM OMBUDSMAN:	MS KATHLEEN DAVIS	VOICE: (908) 532-3320/1467 / DSN 992-3320/1467 DATAFAX: (908) 532-6020 / DSN 992-6020 E-MAIL: davisk@doim6.monmouth.army.mil				
AMCOM OMBUDSMAN:	MR. JOHN FINAFROCK	VOICE: (205) 876-6659 / DSN 746-6659 DATAFAX: (205) 955-7753 / DSN 645-7753 E-MAIL: Finafrock-JW@redstone.army.mil				
TACOM OMBUDSMAN:	MS. ANN NEWELL	VOICE: (810) 574-5274/7662 / DSN 786-5274/7662 DATAFAX: (810) 574-5011/5097/DSN 786-5011/5097 E-MAIL: newella@cctacom.army.mil				
		8 OF 8				



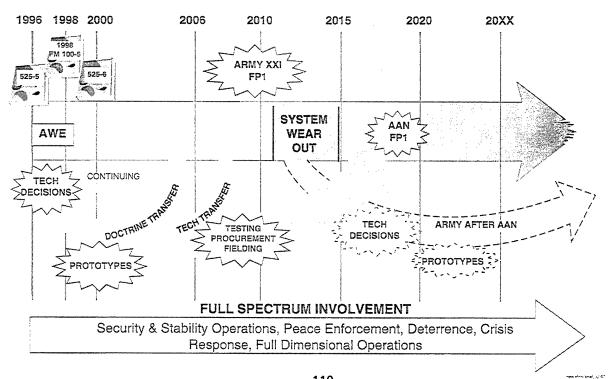
PROJECT AAN MISSION STATEMENT

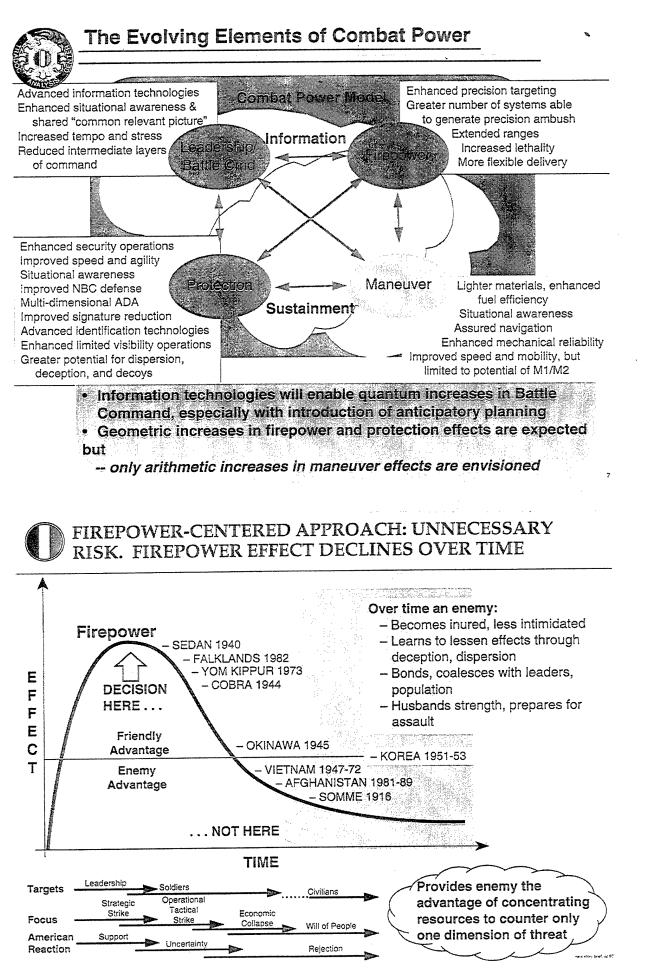
Conduct broad studies of warfare to about the year 2025 to frame issues vital to the development of the U.S. Army after about 2010 and provide those issues to senior Army leadership in a format suitable for integration into TRADOC combat development programs.

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INFLUENCES ON THE ARMY'S FUTURE – GETTING TO AAN AND BEYOND



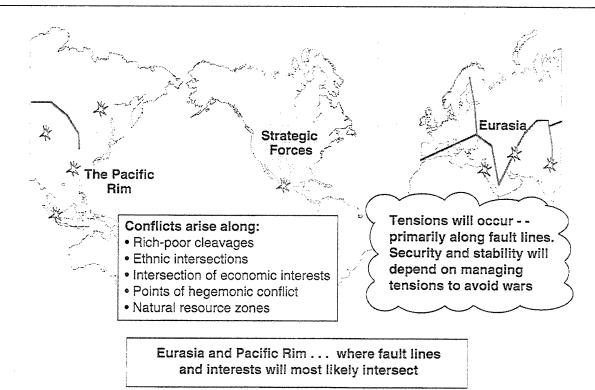


AAN FUTURES RESEARCH FOCUSES INITIALLY ON FOUR AREAS CIRCA 2025:

- •Probable geopolitical realities: Ensure stability across the spectrum
- •Evolving military art: Balance Precision Engagement and Dominant Maneuver
- •Technology: Speed to exploit Information Dominance
- •Human and organizational behavior: Mature, cohesive force operating at the limits of human cognition



GEOPOLITICS of 2025



- exer and 1997

SEVEN YEARS into the 21st CENTURY WE SEE a RISING PATTERN of ASYMMETRY

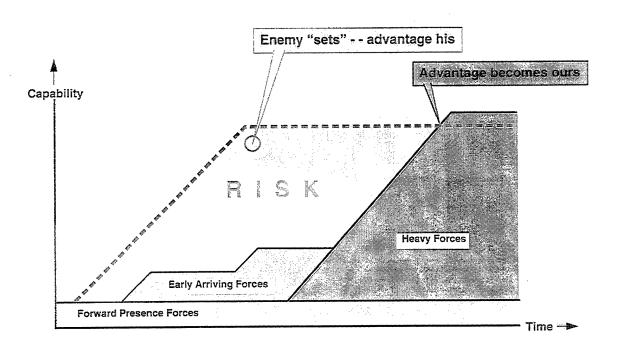


Among our potential foes there's a common, almost spontaneous movement to posture themselves for asymmetric competition

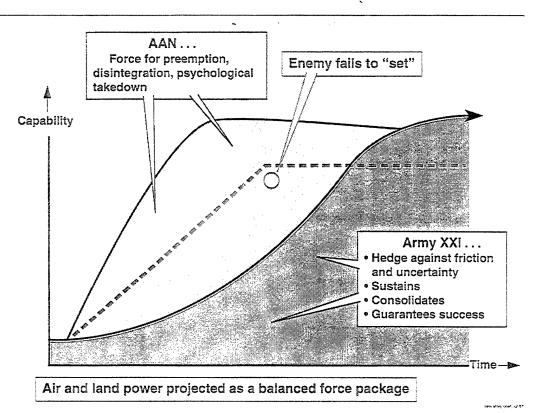
- Streamlining current forces
- Education/professionalization
- Regional focus on local hegemony
- Shifting operational concepts –deflect air and sea power to preserve standing armies

	Army			Asymn	netric lı	nvesti	nents	;	Legend:	
India North Korea	980,000 1,000,000	i i		- L	-Br	9 9	×	<u></u>	• Missiles (Ballistic and Cruise)	Â
Pakistan	520,000	ļ				5		<u>سنگ</u>	• Air Defense • Submarines	<i>¥</i>
Iran	345,000	i		<u> </u>		9			• C4I/IW	-0-
Iraq	350,000	i i	#		-0-	Ť			• WMD	E.
Russia	670,000	į	s.	<u> </u>	** ®**	61	Ħ		 Fighters 	20
China	2,200,000	į	#	-	and the	-9	Ħ		 Missile Ship 	5
										carac othery terrori, its

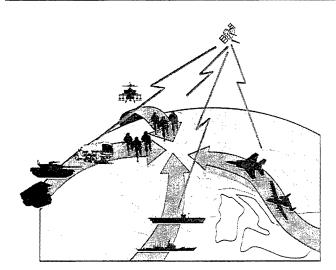
Power Projection Today: Slow Arrival Allows Enemy to "Set": Reaction *vice* Preemption



Power Projection in 2020: Preemption *vice* **Reaction**







- Power projection from all points on the globe converge and paralyze enemy
- Simultaneous convergence of overwhelming land, air, space, and sea forces
- Overseas presence quickens global maneuver
- Being "First with the Most" reduces risk and begins process of psychological domination

Seize initiative, build momentum . . . an image of uncontestable competence and unstoppable force

The Goal: A globally self-deployable force capable of striking directly at strategic and operational centers of gravity



Notions about "Air Mechanization" Continue to Evolve



CH-53 Range: 185 km radius Fuel for ave insert: 1017 gais Lift: 30,000 lbs (2 Wiesels) Wiesel Crew: 2 Wt: 7900 lbs Armament: TOW, MK-20,



UH-60L Range: 584 km radius Fuel for ave insert: 250 gais Lift: 8,000 lbs TACAWS Crew: 2 Wt: 8,000 lbs Armament: TACAWS **1978** - Some evidence that Soviets orchestrated successful air mechanized maneuver against Somalis in Ogadan.

1981 - Brigadier Simpkin proposes air mechanization concept based on beliefs that

- increases in mobility will be achieved "more easily and economically...by getting off the ground"
- highly mobile element needs an order of magnitude increase in mobility over the bulk of the force, increasing tempo decreases the time for which ground has to be held.
- Rotor is to track as track is to boot

1983 - GEN Von Senger und Etterlin proposes

- need to match "increase in firepower with a significant increase in mobility"
- steps beyond "Air Mobility" to "Air Mechanization"

1992 - Col (R) Franz proposes an "air/land vehicle (A/LV) capable of holding ground."

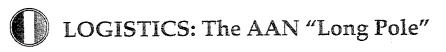


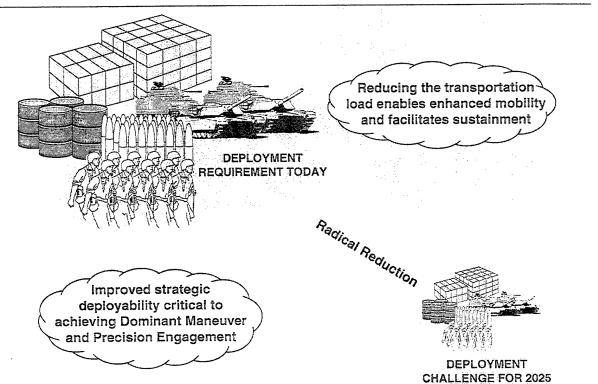
MV-22 Range: 625 km radius Fuel for ave insert: 425 gals Lift: 15.000 lbs Cadillac Gage Crew: 2 Wt: 15.000 lbs Armament: 105mm, 7.62, 50 Cal, Tow, MK-20

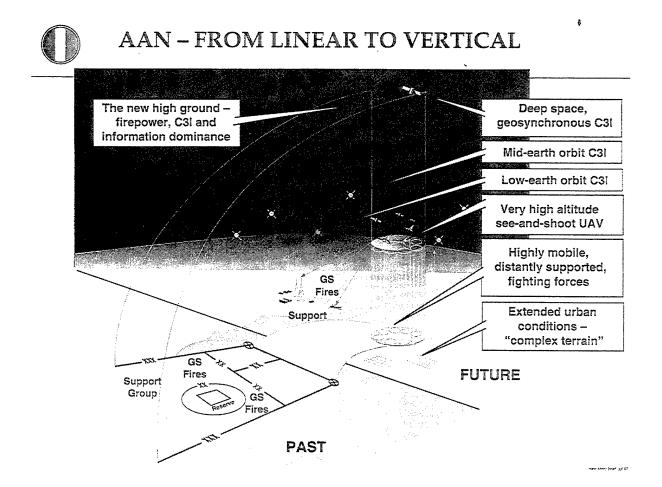




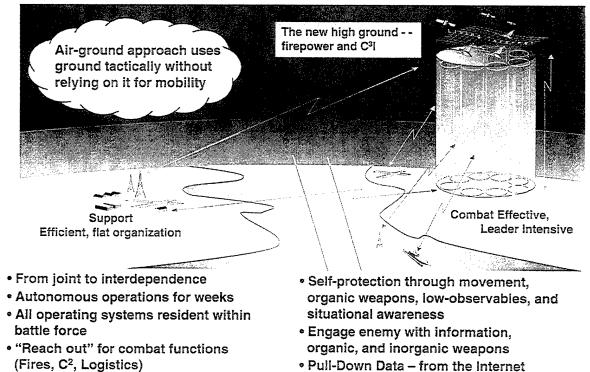
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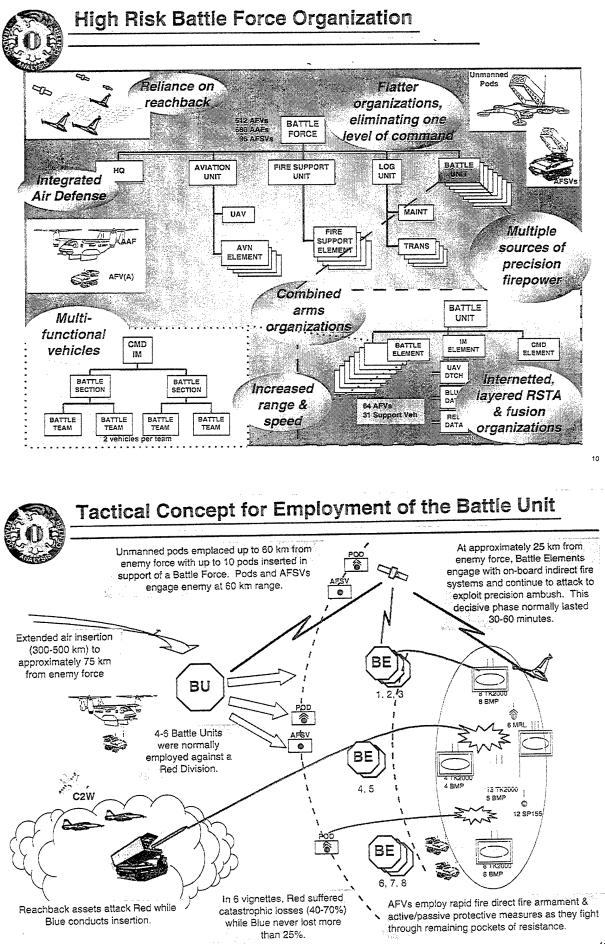




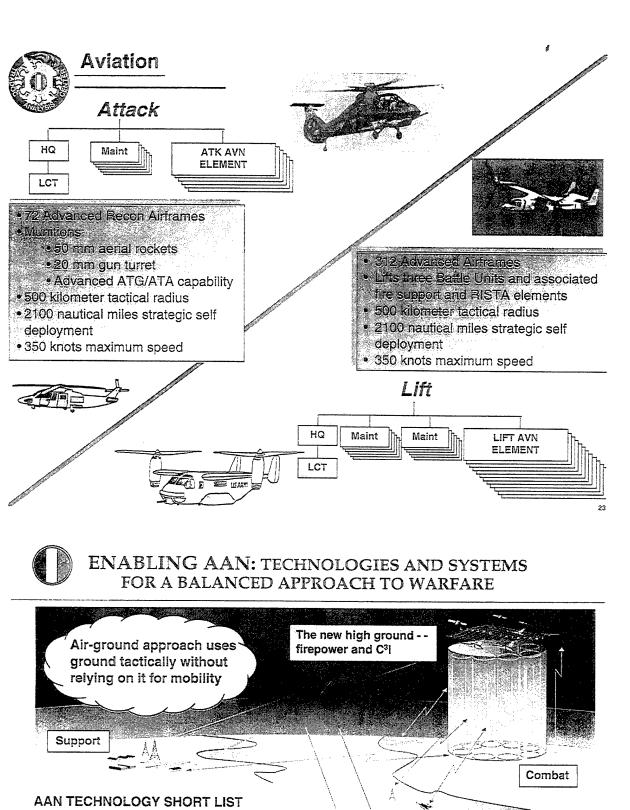
OPERATIONAL CHARACTERISTICS of AAN (20XX) ... A BALANCED APPROACH to WARFARE



Pull-Down Data – from the Internet



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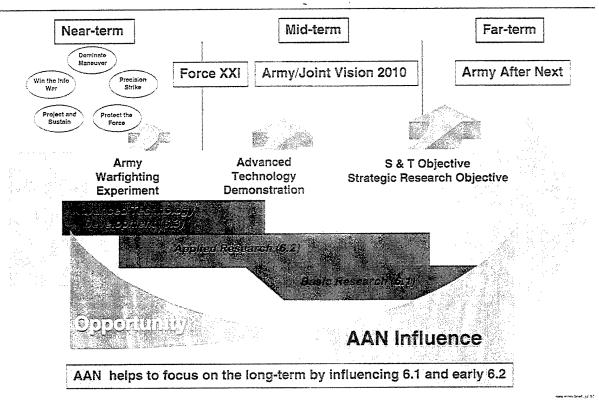


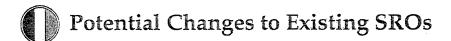
- Hybrid Power Systems
- Fuel Efficiency (Reduce consumption by 75%)
- Human Engineering/Cognitive Engineering
- Signature Control (Including Counters)
- Protection Schemes for Land Systems (Including Active Protection)
- Advanced Materials
- Alternative Propellants
- Biological and Chemical Protection, Antidotes, and Vaccines
- Logistics Efficiencies

AAN SYSTEMS SHORT LIST

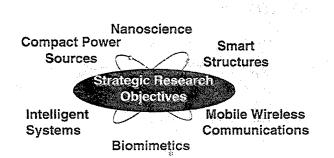
- Future Groundcraft
- Advanced Airframe
- Heavy Lift
- Tactical Utility Lift
- Autonomous and Semi-autonomous – Unmanned Systems (Air, Ground,
- Sensors)
- Advanced Fire Support System
- "Living Internet"

AAN Influence on S&T Investment Strategy

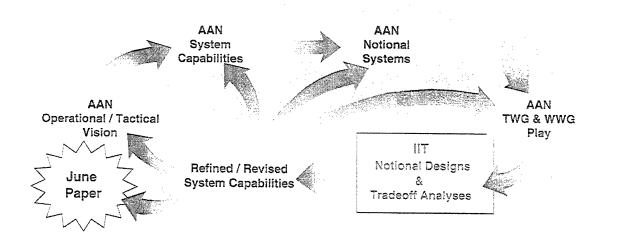




- Expand "Mobile Wireless Communications" to include terrain & environment-independent comms, data management
- Ensure that "Biomimetics" addresses lightweight protective materials
- Address unmanned vehicles/robotics concepts in "Intelligent Systems"

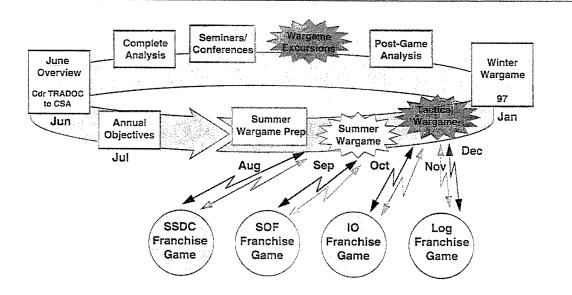


INTEGRATED IDEA TEAMS (IIT): Focus of Army S&T Effort

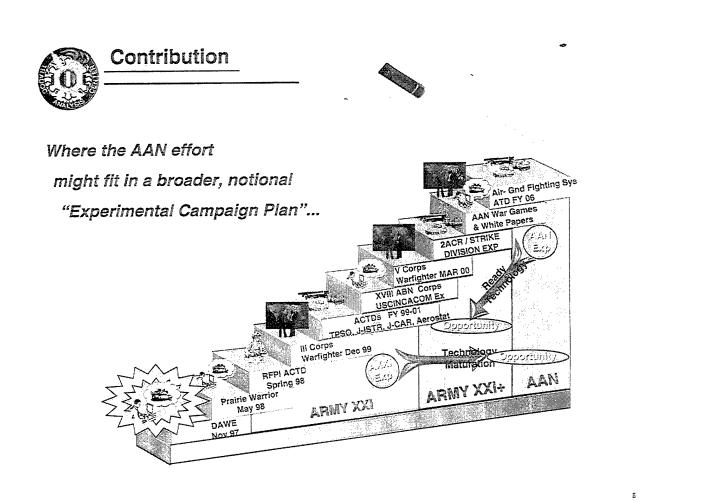


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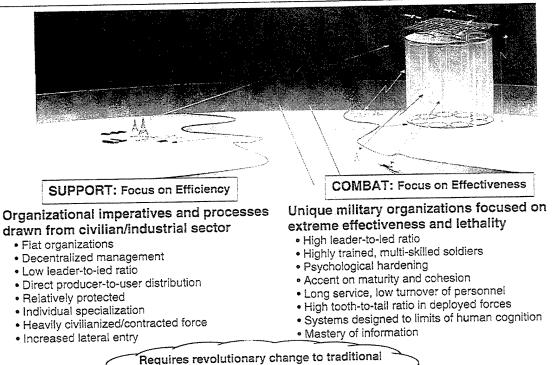
EXPANDING THE PARTNERSHIP



Franchises are AAN organizational partners who have agreed to conduct analytical excursions to further develop specific issue areas as feeds to the AAN wargame process.







personnel and management approaches

new etmy trief, at 90

CSA GUIDANCE

Define what we want in the Army After Next so that ...

- Force XXI expands to link Army XXI and Army After Next
- Force XXI does not get disjointed from long term vision
- Also, we must
 - Focus our R&D efforts
 - Narrow the gap between heavy and light forces
 - Improve mobility, enhance firepower
 - Leverage the work already done in OSD's RMA studies
 - Identify organizational concepts that better integrate AC & RC

an and the state

- Revolutionize logistical concepts . . . continue developing total asset visibility & velocity management
- Institutionalize AAN concepts & process
- Think joint and involve other services in AAN process



Army Science & Technology Highlights

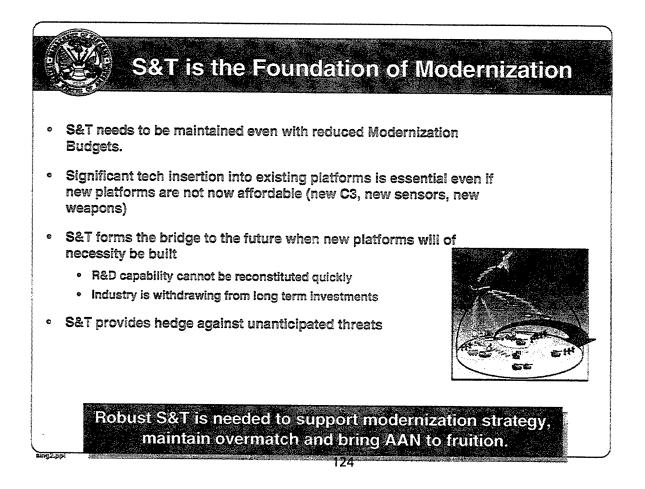
ADVANCED PLANNING BRIEFING FOR INDUSTRY U.S. ARMY AVIATION AND MISSILE COMMAND REDSTONE ARSENAL, AL October 21, 1997

Dr. A. Michael Andrews Director for Technology Office of the Deputy Assistant Secretary of the Army for Research, Development and Acquisition

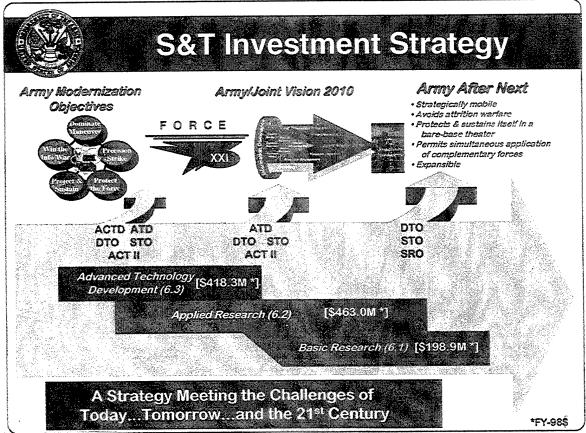


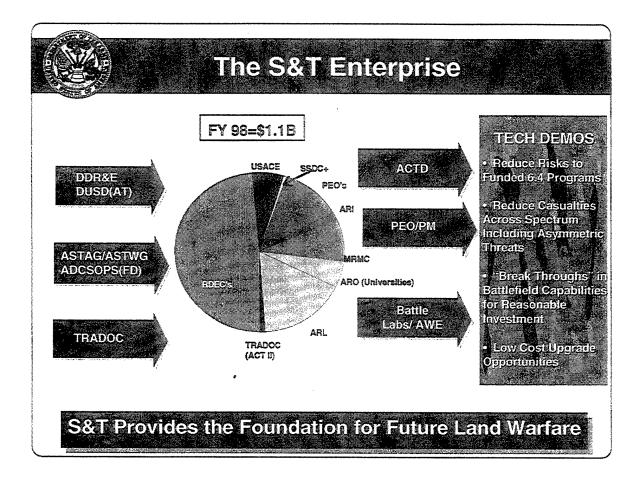
- S&T Strategy, Planning, & Processes
- Implementation Approaches -- STOs, ATDs, ACTDs, Fast Tracks
- Army After Next -- S&T Planning
- Summary

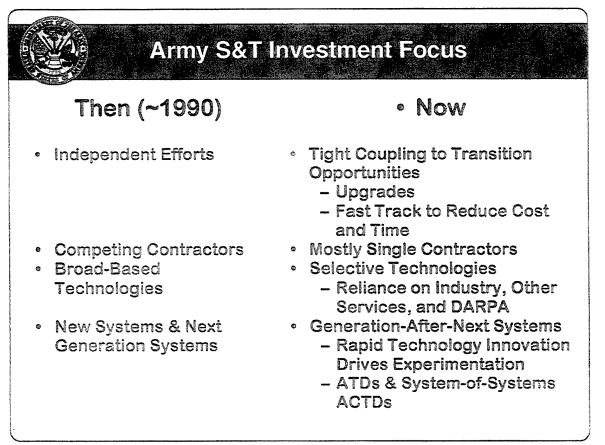


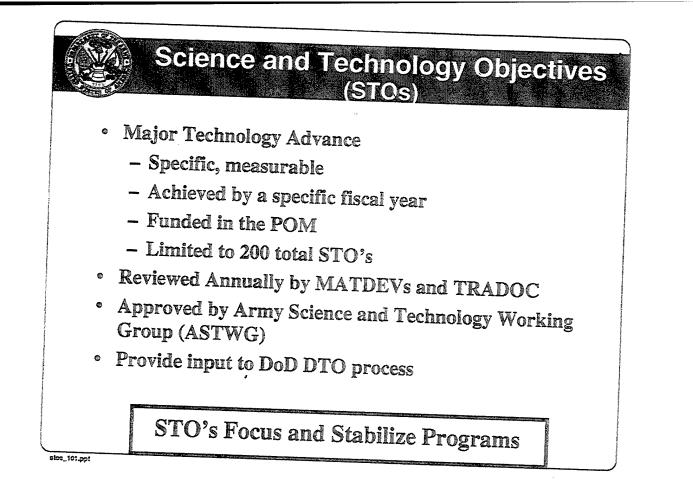


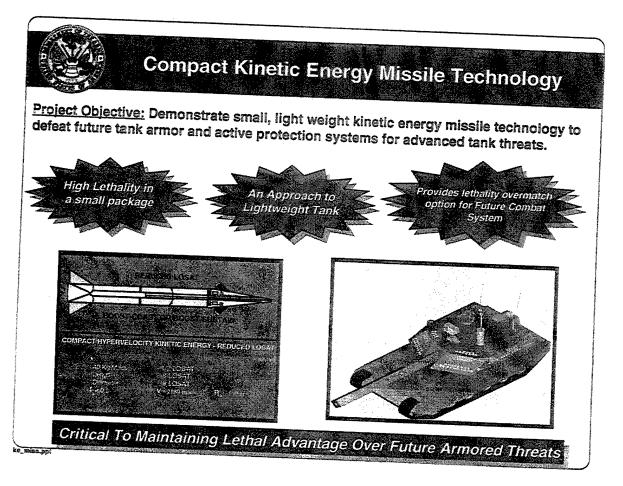


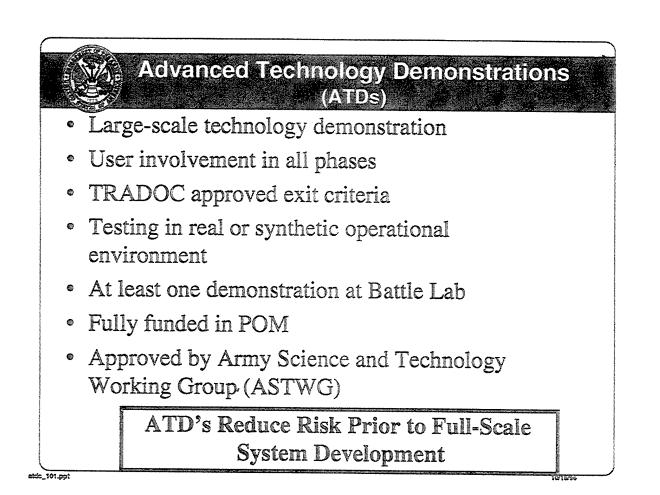




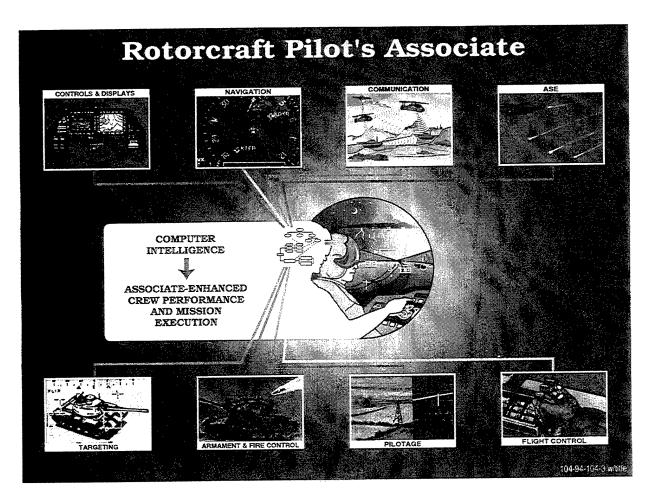








	ucing, integrated proof-of-		ogy Demonstration (D)
Á.	ATD Support to	Army Moderniza	ation Objectives
Protect 1 • Battlefield Combat Ider • Objective Individual Co • Vehicle Mounted Mine • Multispectral Countern • Mine Hunter/Killer • Integrated Biodetection	mbat Weapon (FY95-99) Detector (FY95-97) easures (FY97-99) (FY98-01)		Dominate Maneuver • Hit Avoidance (FY95-9 • Target Acquisition (FY95-9 • Composite Armored Vehicle (FY94-9 • Intelligent Minefield (FY94-9 • Intelligent Minefield (FY94-9 • Precision Guided Mortar Munition (FY94-9 • Direct Fire Lethality (FY94-9 • BotomentHellops/scond-lease (FY94-9 • Air/Land Enhanced Recon & Tgtng (FY97-0) • Air/Land Enhanced Recon & Tgtng (FY97-0) • Future Scout and Cav Vehicle (FY98-0)
	• Totel [Project & Susta	Multifunction Staring Sensor Suite (FY98-0)
Precisio Guided MLRS Indirect Precision Fire Enhanced FOG-M*	n Strike (FY95-98) (FY98-01) (FY94-99)	23 Total ATDs	Win Information War • Digital Battlefield Communications (FY95-99) • Battlespace Command and Control (FY97-00)
agau, PP7		129	



ATD & ACTD Demonstration Objectives

ATD Advanced Technology Demonstration

• Evaluate Technical Performance.

Objectives

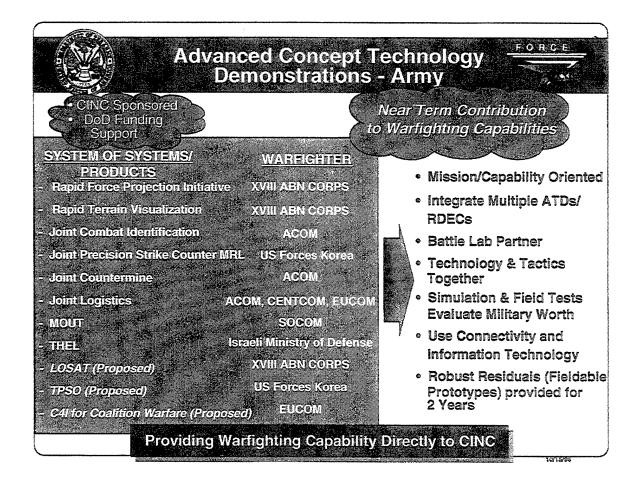
- Demonstrate technical feasibility and maturity.
- Reduce technical risks and uncertainty at the relatively low cost of informal processes.

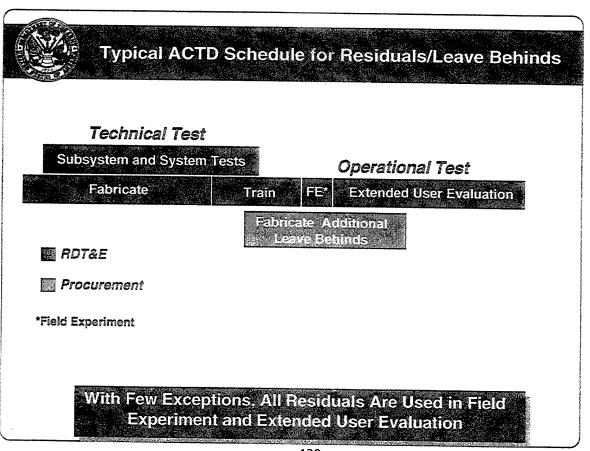
ACTD Advanced Concept Technology Demonstration

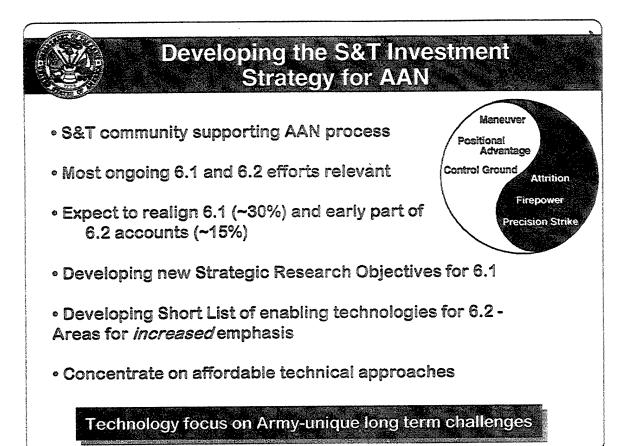
• Evaluate Military Value (large scale experiment).

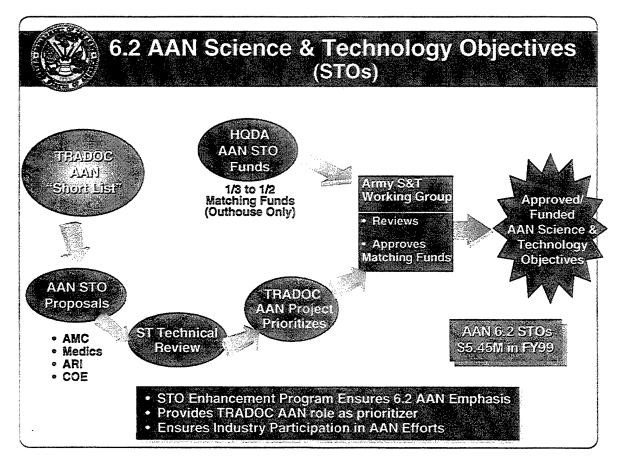
Objectives

- Gain understanding of and evaluate military utility before committing to acquisition
- Develop corresponding concepts of operations and doctrine.
- Rapidly provide operational capability fieldable prototypes (Residual).









SUMMARY Army S&T Program is Focused on the Warfighter Demonstrations Evaluate Military Value of New Technologies and Corresponding Concept of Operations Strong Emphasis on ACTD Approach Assures Rapid Transition of New Capabilities into the Hands of the Warfighter S&T Investment Enables Technology Evolution to AAN and Maintains Battlefield Superiority