

Precision Strike Association



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Agenda

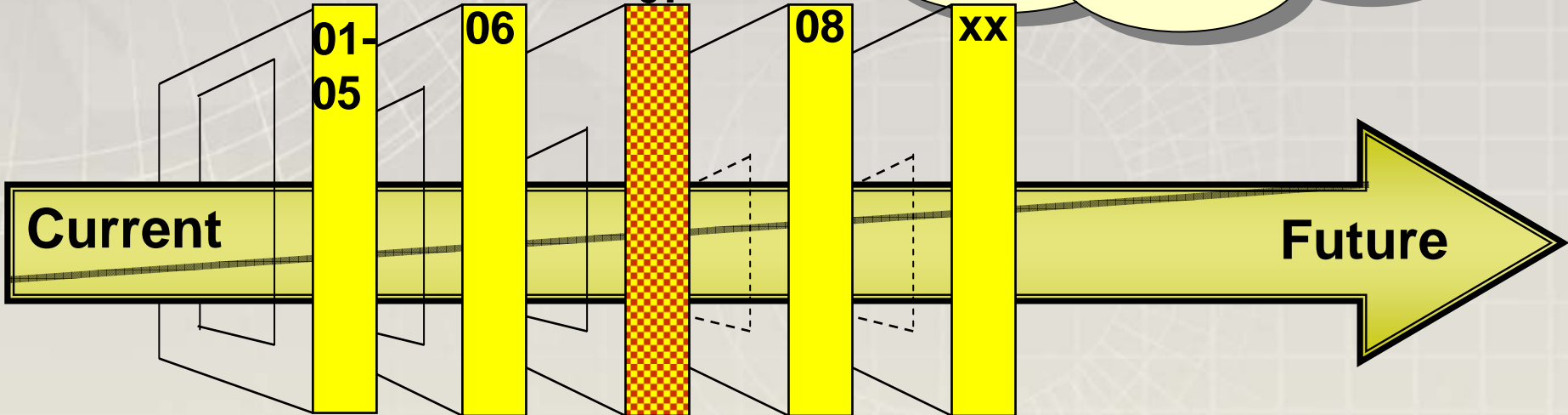
- Current Strategic Environment
- What is Precision?
- Jerry McGuire – “Show Me The Money!”
- Future Investment Strategy
- Industrial Base – Viable or Declining?

A Complex Strategic Environment



Adversity

- Threatening Ideologies
- Hostile Regimes
- Weapons Proliferation
- Irregular Warfare



WARTIME FOCUS + WARTIME RESOURCES = WINDOW OF OPPORTUNITY

Uncertainty

- Progress of GWOT
- DoD Transformation
- Recruiting and Retention
- Role of NATO/UN/NGOs

Supplementals

- Public Will
- Int'l Coalitions



Munitions Terminology

Precision Munitions

Capable of self locating and maneuvering to a specific location with an accuracy sufficient to yield a high probability of destruction within its inherent capabilities.

Smart Munitions

Self-contained capability to search, detect, acquire, and engage individual targets by detecting the general target characteristics in order to provide terminal guidance for the munition or submunitions.

Discriminating Munitions

Self-contained capability to search, detect, acquire, and engage individual targets by distinguishing specific characteristics of the target to selectively identify and engage only the desired target types.

Precision Munitions -- Why?

- All-weather, terrain, and operational environment engagement capability that reduces operational risk by providing immediate responsive fires and scalable effects
- Minimize collateral damage, especially in urban settings; allows for discriminating use of force
- Reduce number of rounds needed to defeat targets at all ranges (same CEP at any range)
- Reduce logistics footprint and force burden
- Essential to fulfill objectives of Transformation and Joint opns
- Compliment -- not replace – unguided or ‘dumb’ munitions

Precision Munitions – Why Not?

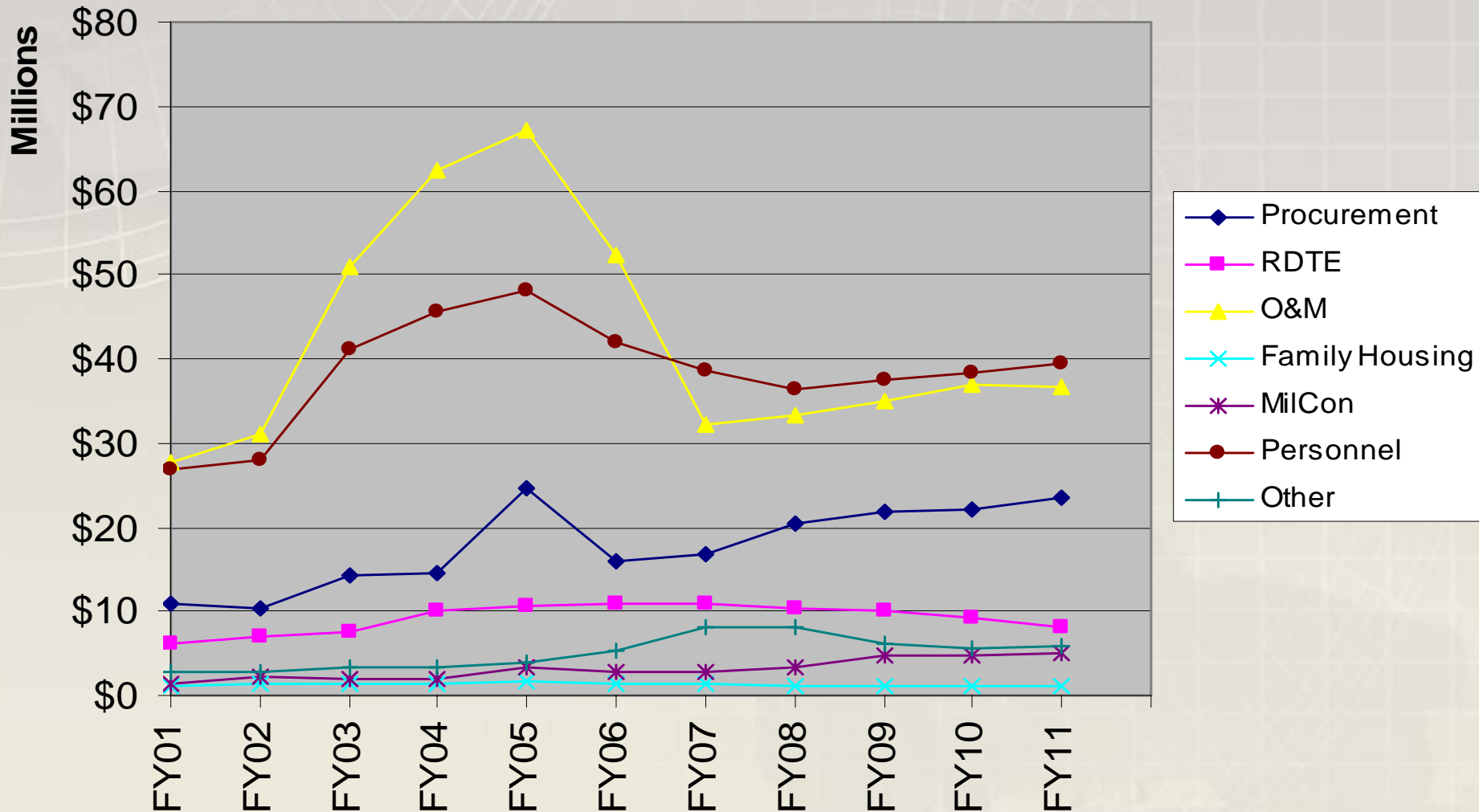
- **Not every target needs to be destroyed – suppression, masking, or harassing fire is often needed to shape the battle**
- **Unaffordable – if chasing too many programs with limited resources**
- **Insufficient numbers – if they become the weapon of choice**
- **Dependent on sensor system data, rapidly passed networked information, especially when addressing fleeting targets**
- **PGM technology is developing ahead of doctrine and infrastructure – modernizing weapons without modernizing doctrine may lead to ineffective use of PGMs**

Misconceptions

- **A replacement for unguided munitions – but “dumb” is still good**
- **A leap-ahead advantage – but temporary since eventually precision will proliferate and put our own forces at risk**
- **Leads to quick victory – but the enemy does not always behave the way we think we would**
- **Technology Will Save Us...**
 - **PGMs are not a replacement for sound tactics or strategy (do not confuse the ways and means of war with its end)**
 - **PGMs as the ‘silver bullet’ – but weapons break; human error; enemy countermeasures; not a replacement for doctrine, tactics, or the human element (leadership; will to win; luck)**

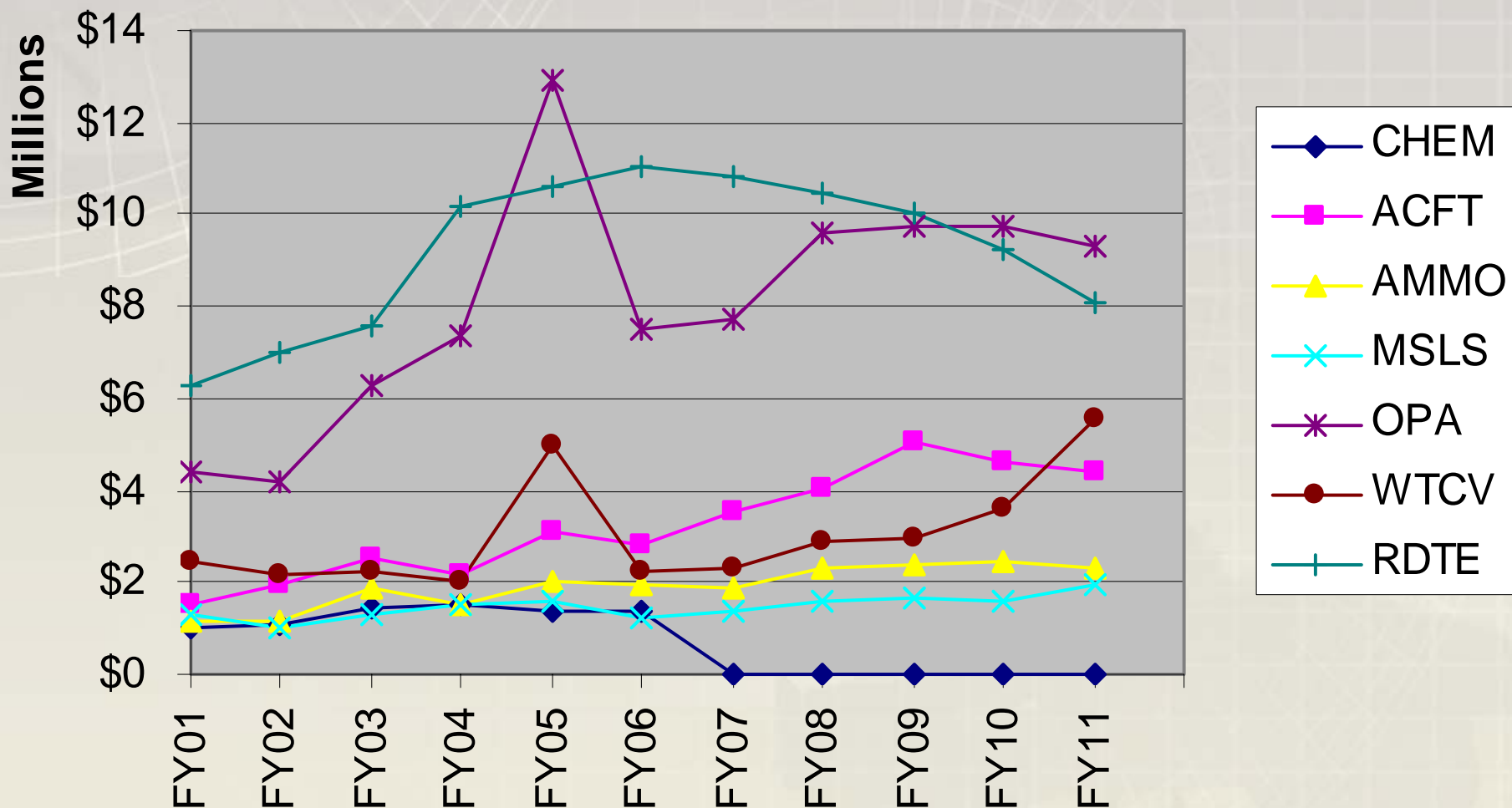
President's Budget (FY01-FY11)

U.S. Army Total (FY01 to FY11) = \$1.3 Trillion



Army Research, Development And Acquisition Summary (FY01-FY11)

RDA Total (FY01 to FY11)= \$304.4 Billion

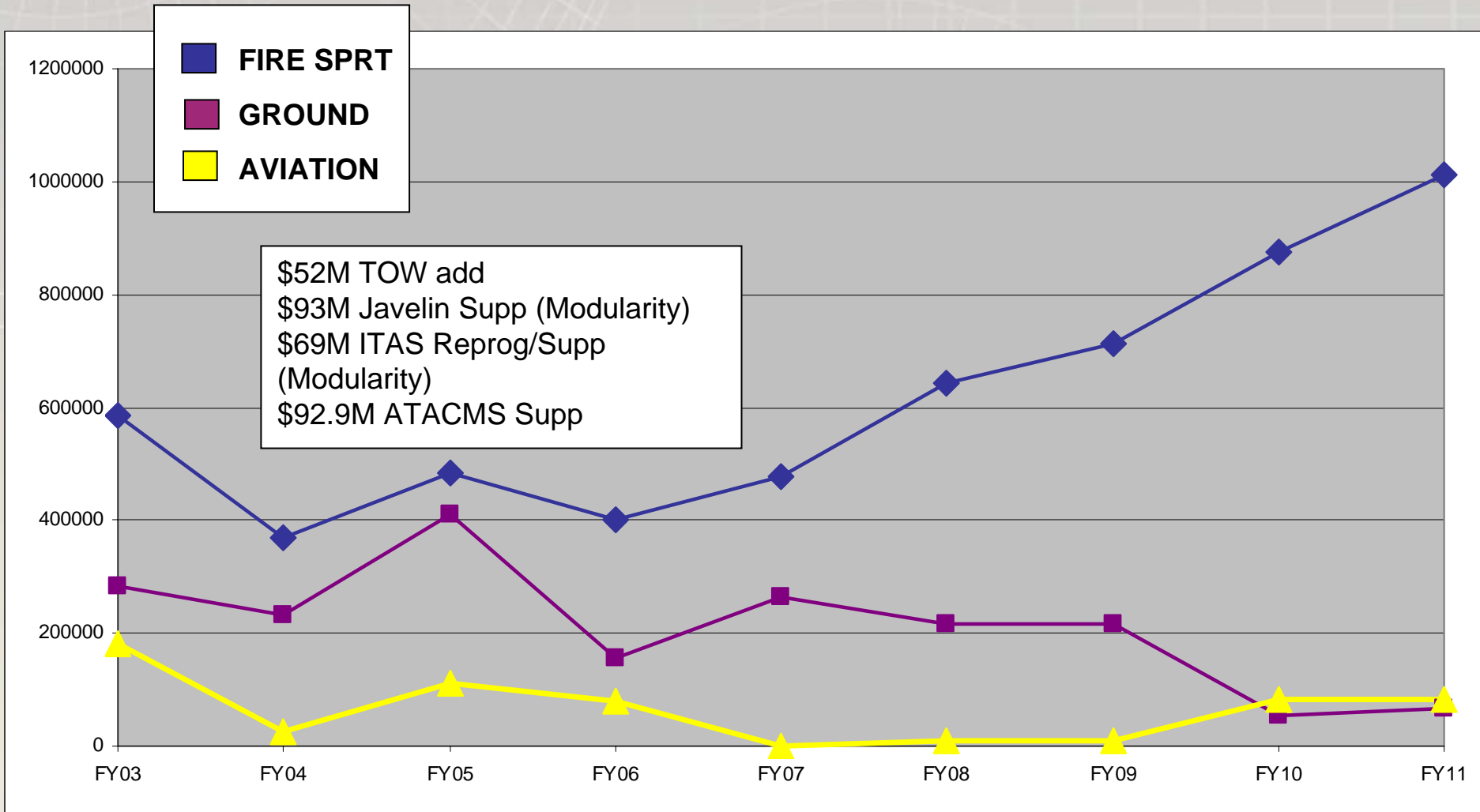


Top Ten Army Programs (2000 vs. 2006)

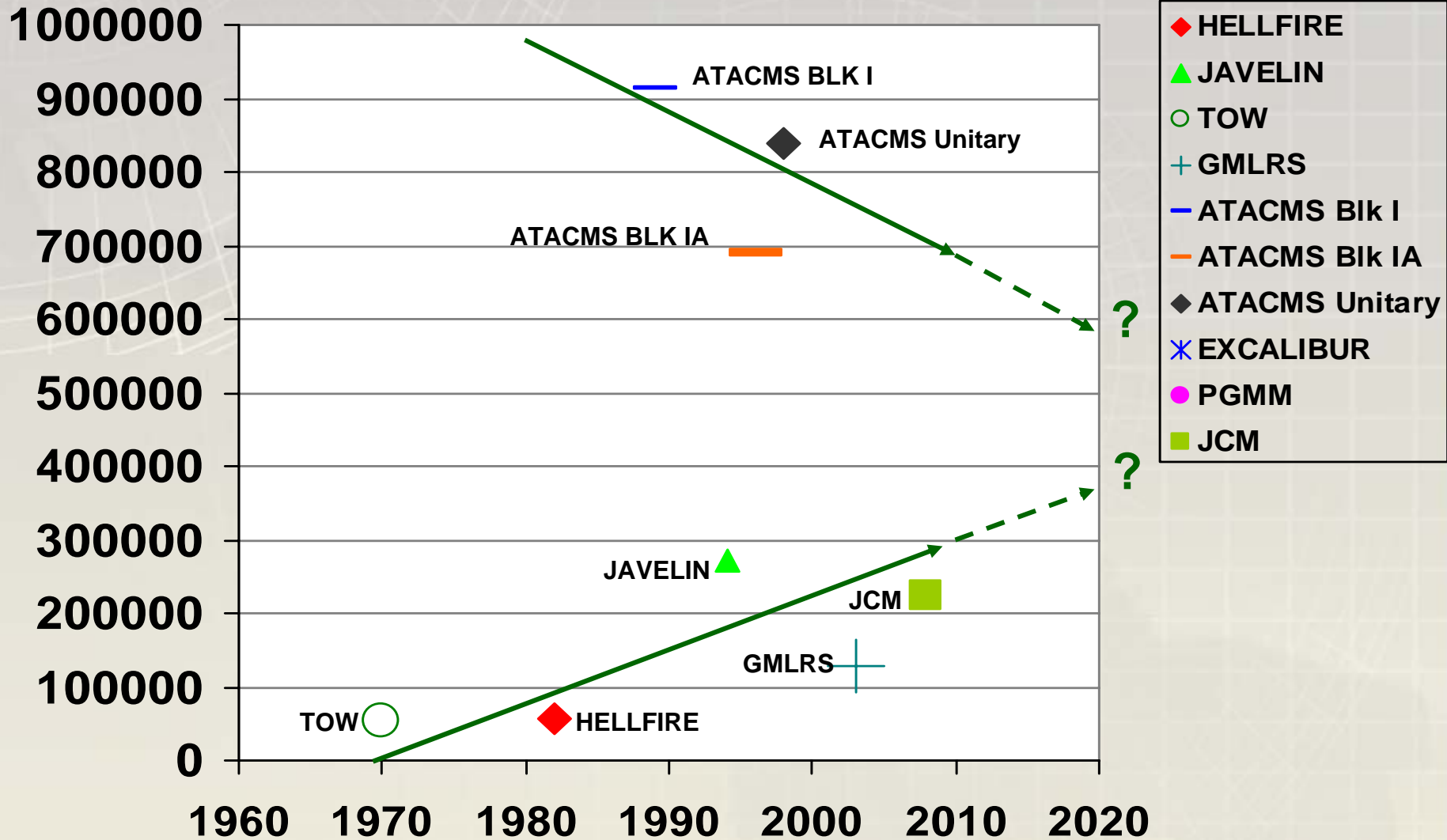
<u>FY 2000 Top MDEPs</u>	<u>FY 2006 Top MDEPs</u>
•TRAINING AMMUNITION	•FUTURE COMBAT SYSTEM (FCS)
•LONGBOW APACHE	•TRAINING AMMUNITION
•TECHNOLOGY BASE	•TECHNOLOGY BASE
•ABRAMS	•STRYKER
•FIRE SUPPORT MISSILES	•Medium Extended Air Defense System (MEADS)
•MEDIUM TACTICAL VEHICLE (MTV) SYSTEMS	•TACTICAL RADIOS
•JAVELIN	•CH-47F Upgrade Recap
•HORIZONTAL BATTLEFIELD DIGITIZATION	•ARMY TEST INFRASTRUCTURE
•COMANCHE	•Apache AH-64D Upgrade Recap
•BRADLEY FIGHTING VEHICLE SYSTEM (BFVS)	•BLACKHAWK

Tactical Missile Procurement

Dollars In Thousands



Missiles/Ammo Initial Unit Cost



Precision Munitions (Fielded & Developmental)

FIELDIED PRODUCTION SYSTEMS:

TOW 2B

JAVELIN

HELLFIRE variants -- SAL (K, M, or N) and LONGBOW (L)

ATACMS Block IV – Quick Reaction Unitary (QRU)

SYSTEMS IN DEVELOPMENT OR S&T:

PEO AMMO:

Excalibur

PGMM

MRM

PGK

PEO MISSILES and SPACE:

CKEM

APKWS II

JCM – Technical
Maturation

NLOS LS -- PAM

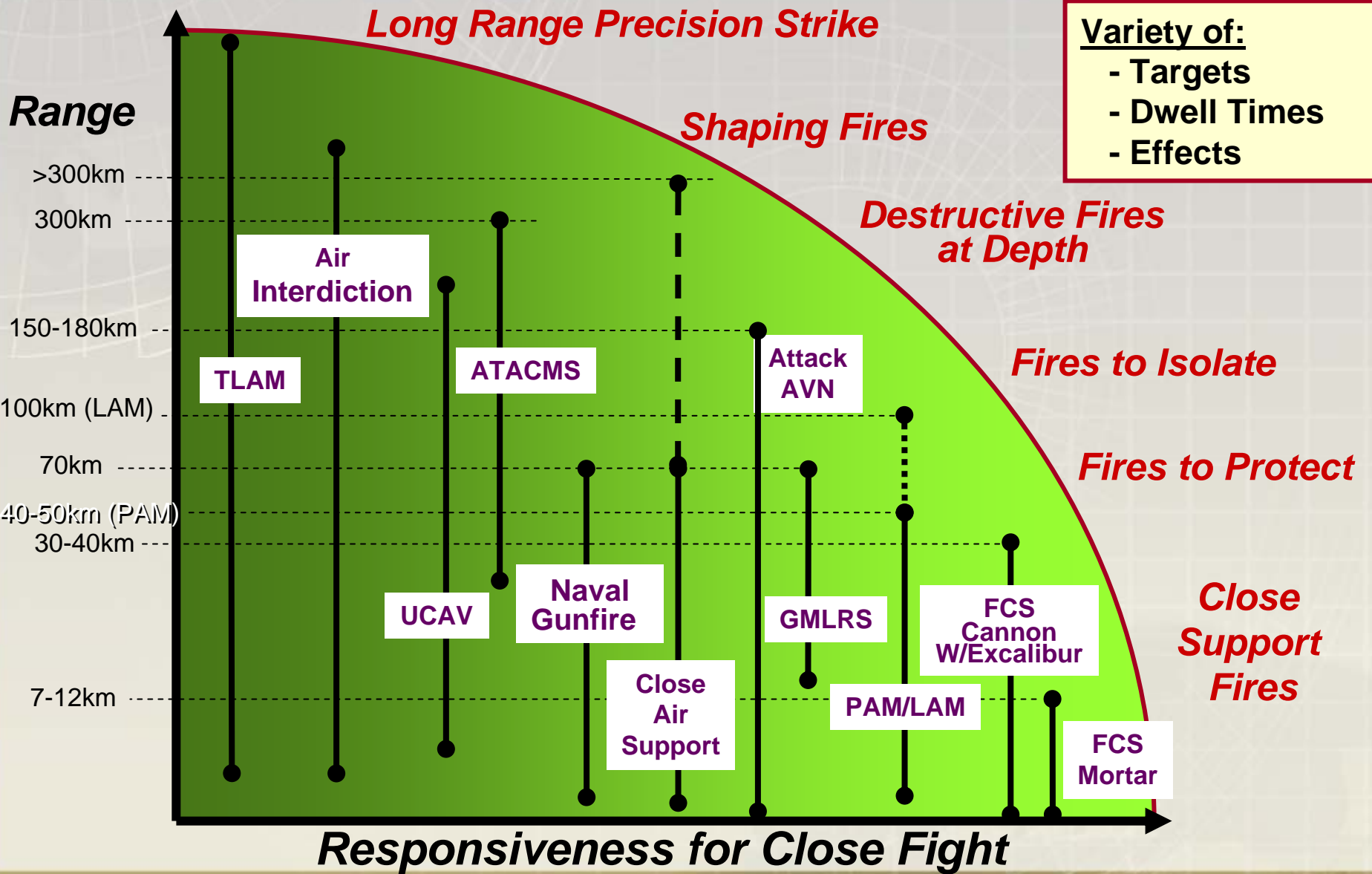
NLOS LS -- LAM

GMLRS

Joint Fires Capabilities

Variety of:

- Targets
- Dwell Times
- Effects



Missiles Expenditures

	GULF WAR 1	GWOT
Air		
Hellfire/Longbow	1770	3441
Anti-Tank Infantry		
Javelin	N/A	682
TOW	2202	5430
Artillery		
MLRS	10,572	840
GMLRS	N/A	54
Unitary	N/A	16
ATACMS (BIK 1)	32	371
ATACMS (BIK 2)	N/A	69

Capabilities for a Joint and Expeditionary Army

Current Force



~100 lb. load



70+ tons



< 10 mph

Enabling the Future Force

Science and Technology—
develop and mature
technology to enable
transformational capabilities
for the Future Modular Force
while seeking opportunities
to accelerate technology
directly into the Current
Modular Force

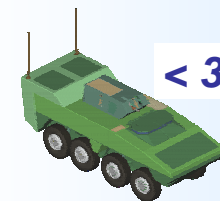
Enhancing the Current Force

Future Force

< 40 lb.
load



Fully networked




< 30 tons



> 40 mph

Today's Science & Technology Investments for Future Precision Strike Capabilities

Missiles



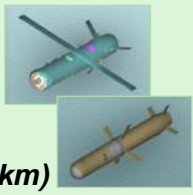
Future Missile Technology

Smaller, Lighter, Cheaper Munition Components (SLMC)

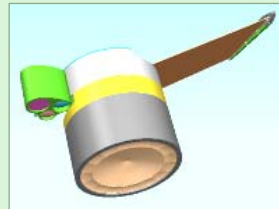
- Miniaturize electronic assemblies
- Chip-scale packaging
- Advanced sensors and gimbals

Next Gen NLOS-LS

- Loitering Attack Missile**
Increased Loiter time(> 30 min)
- Precision Attack Missile**
Increased Range(>40km)



Munitions



Common Smart Submunition

- Discriminating I2R & LADAR Sensors
- Long, Aerostable EFP
- 155mm, 105mm, PGMM & GMLRS Applications

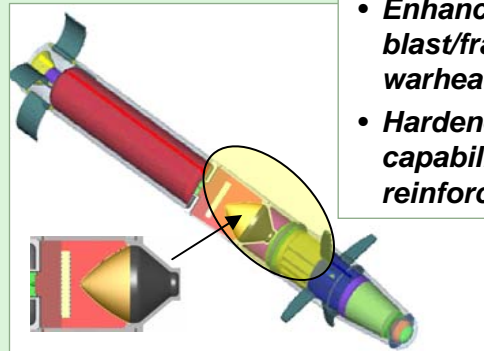


120mm Mid Range Munition

- Range 2-12km (BLOS)
- Autonomous or Laser Designated Seeker Modes
- Hit to Kill

Multi-purpose Warheads

- Single warhead defeats bunkers, heavy/light armor & personnel
- Enhanced Shaped Charge blast/fragmentation warhead
- Hardened for bash-through capability against reinforced structures



Lasers

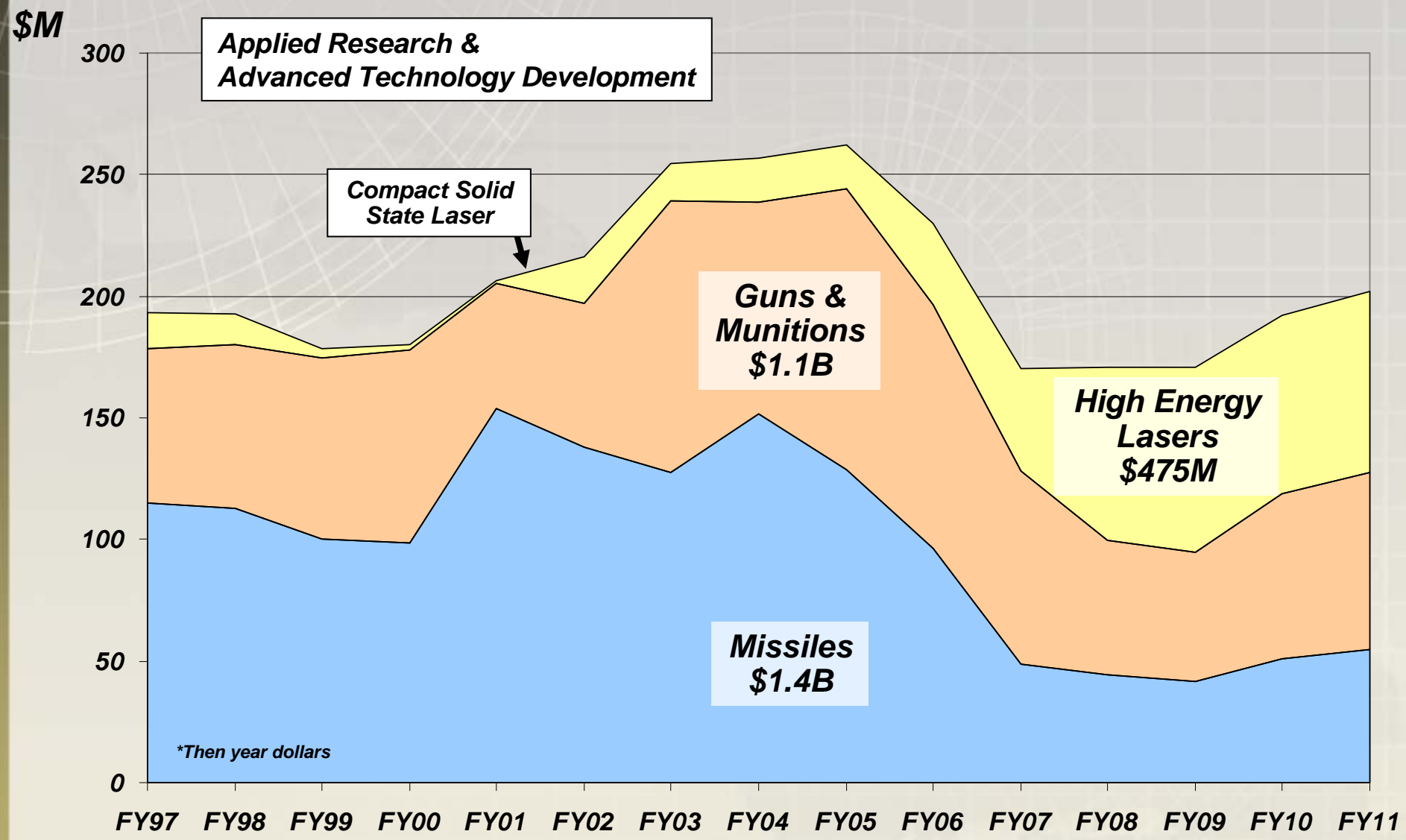
- Counter-rocket, artillery & mortars
- Disrupt/defeat EO/IR sensors
- Scaleable effects



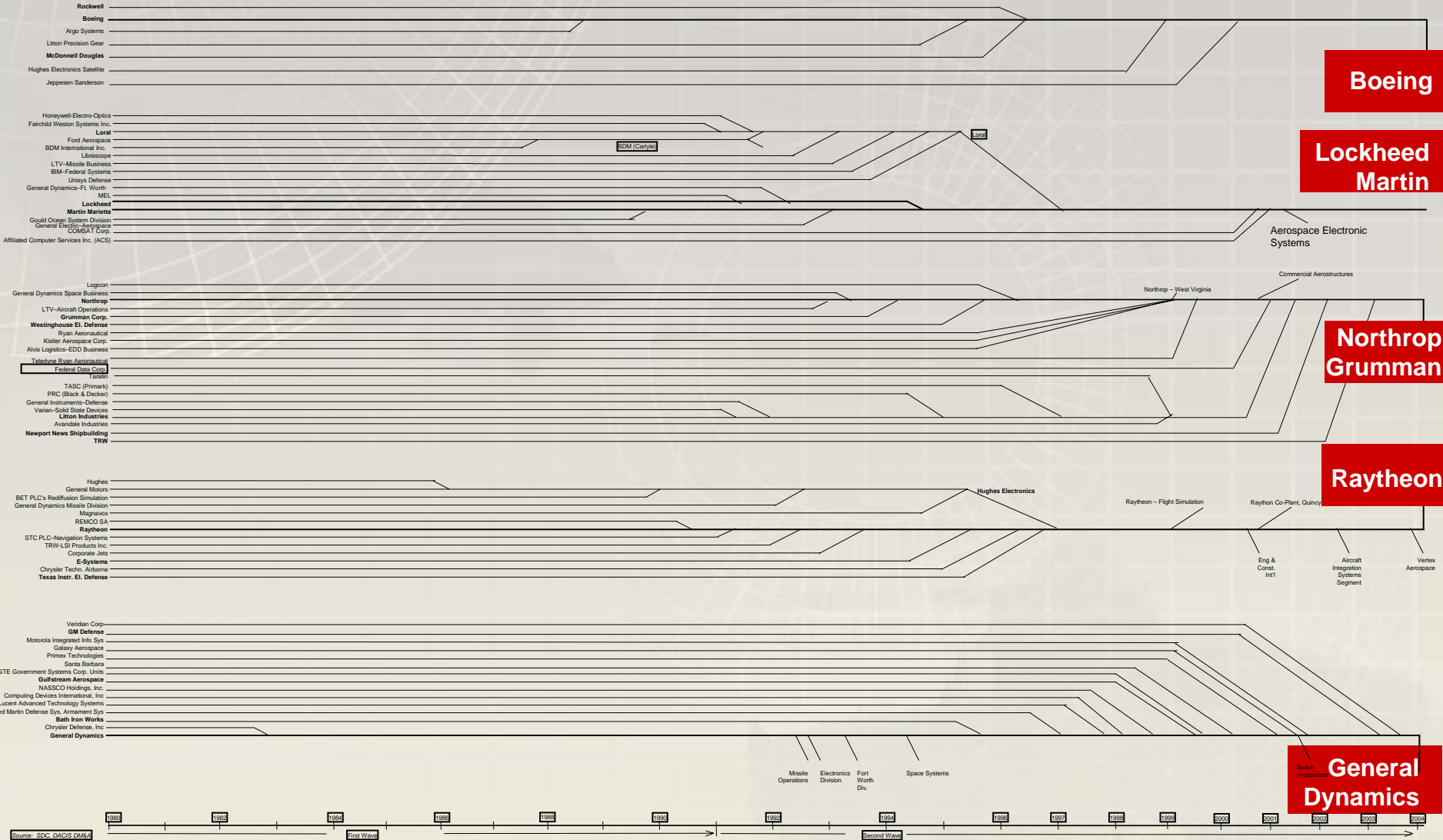
High Energy Solid State Laser

Ultra-short Pulsed Lasers for Laser Guided Energy

S&T Investments Enabling Precision Strike Capabilities FY97-11, \$3B*

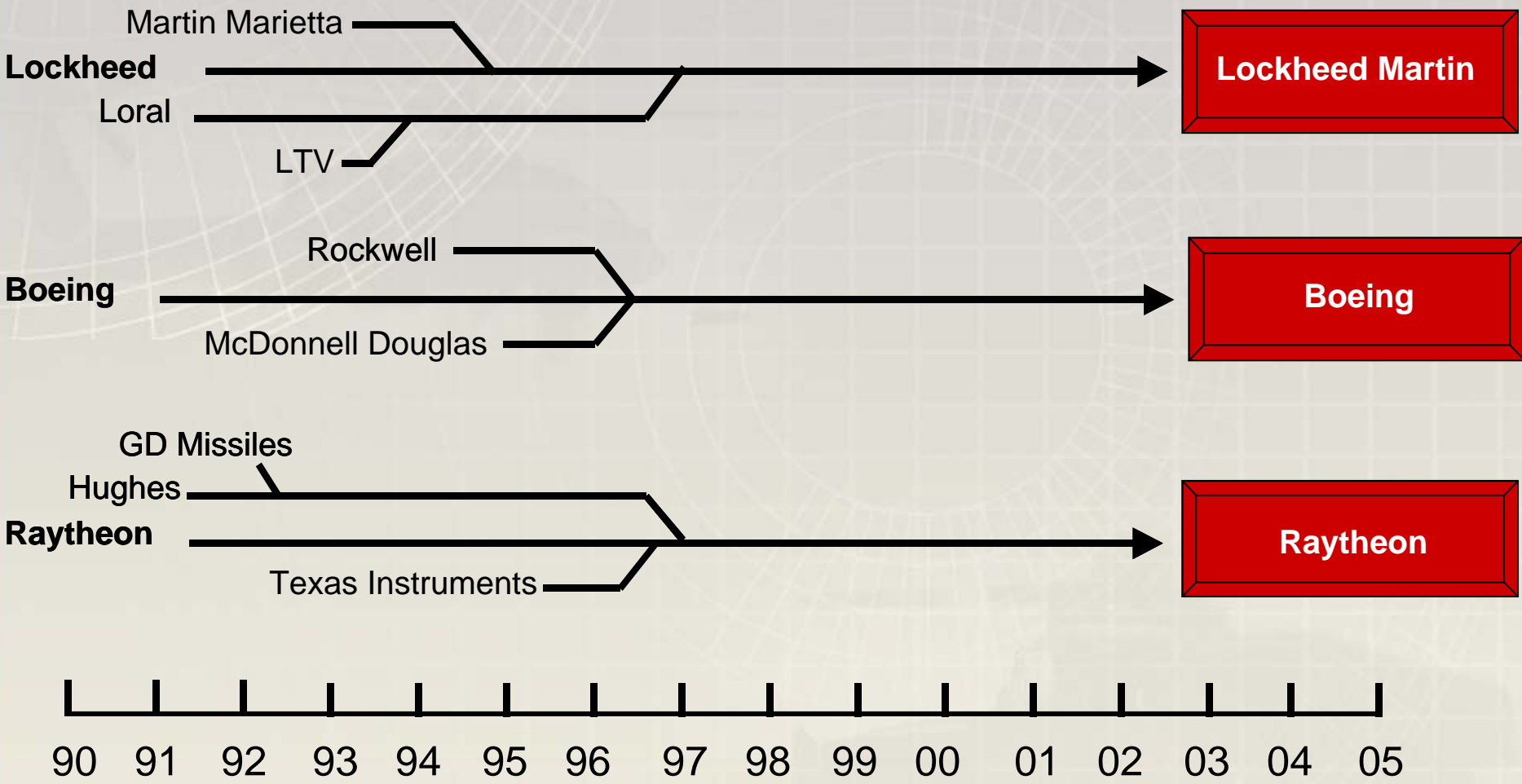


Industrial Base – Family Tree

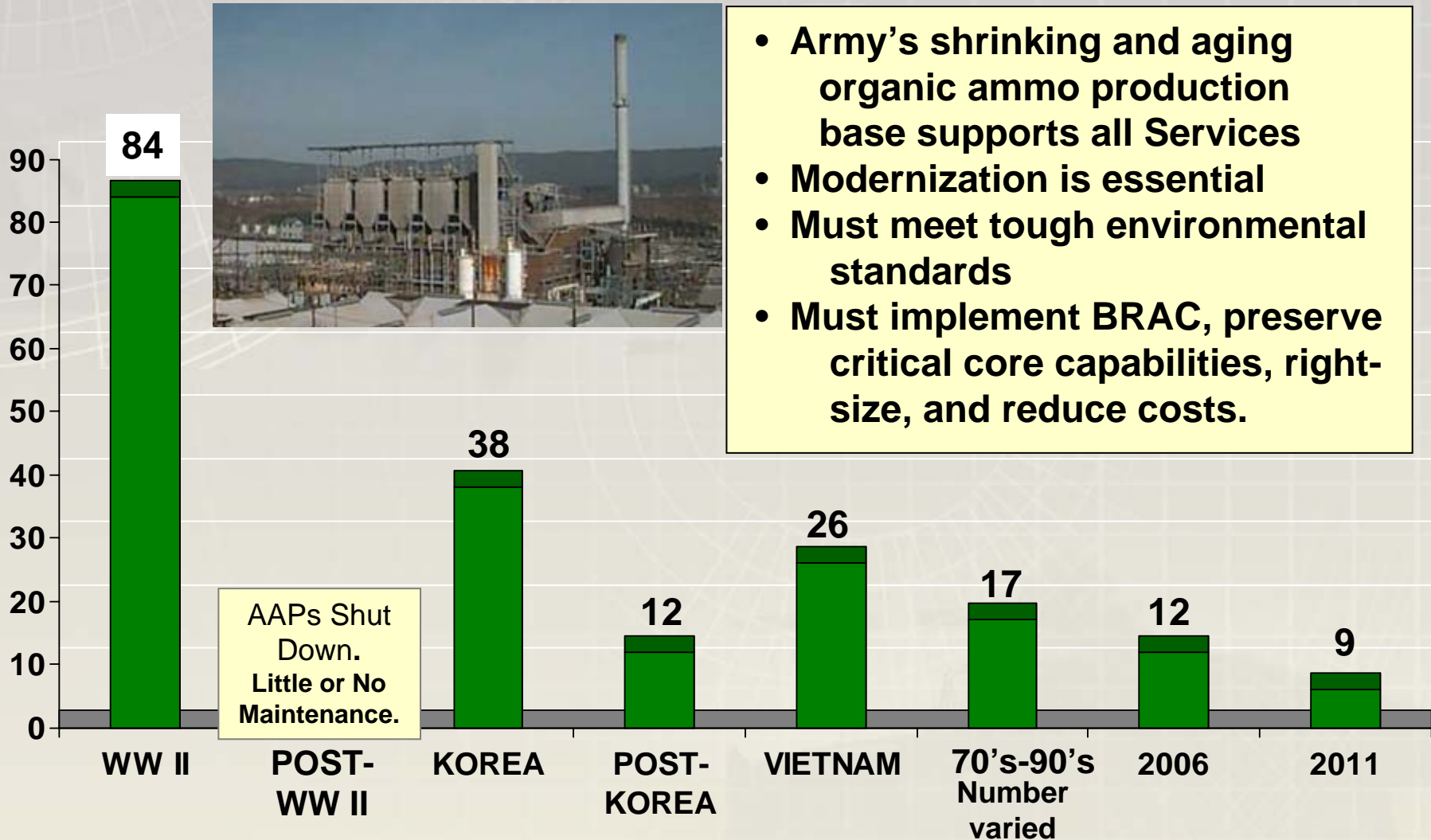


Source: SDC, DACIS DM4

Missile Sector Industrial Base Consolidations

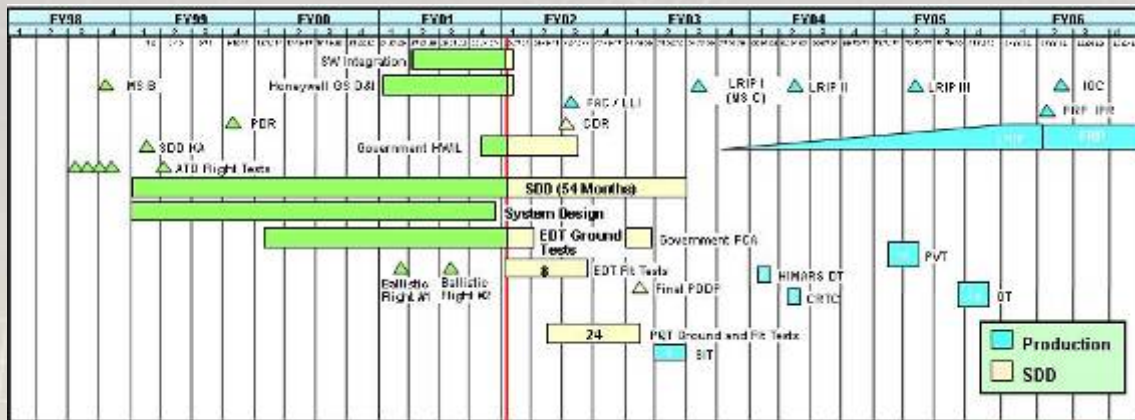


Active Army Ammunition Plants (AAPs) - Government Owned



Numbers shown do not include plants in layaway and "semi-active" status.

Success Story



Program of Record (2001)

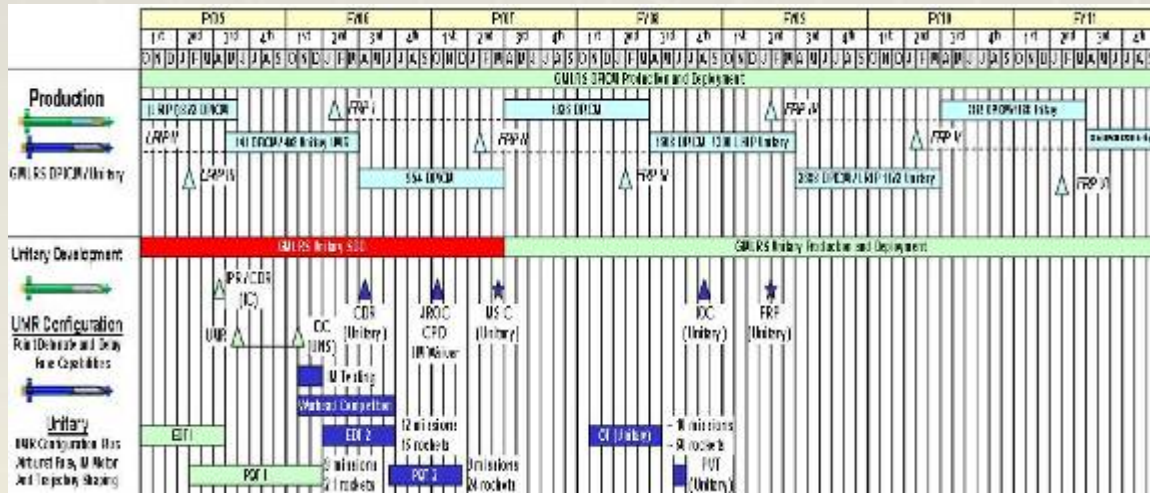
- Did not Include Unitary
- Focused on DPICM "Only" Solution

World Events Change & New Requirements Evolve

Program of Record (2003)

- Included Unitary
- Envisioned Urgent Need Variant
- Considered Warhead Improvements

Urgent Need Variant
(Dual Mode Fuze & Basic Motor)
Fielded and 41 Operationally Employed
2005



Way Ahead

- Investment Strategy for Precision Weapons Portfolio Needs Review
- Precision Lethality – System of Systems Evaluation
- Enormous Stockpile – Demil or Refit?
- S&T Strategy: Sub-Components Improvements or New Technology?
- Industrial Base Declining; Cost of Weapons Increasing