



REVITALIZING SYSTEM ENGINEERING

UNITED STATES SPECIAL OPERATIONS COMMAND APPROACH

16 November 2004

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Acquisition Executive



SOCOM ROLES

- **Supported Combatant Commander (COCOM)**
- **Supporting COCOM**
- **MILDEP-Like:**
 - Budget & Programming (MFP-11 S&T, R&D, Proc, O&M, MILCON)
 - Acquisition Authority, Head Contracting Activity (SOFARS), Chief Information Officer, Chief Financial Officer
- **Service-Like:**
 - Organize, Train, Equip
 - Requirements
 - Operational Testing

INVESTMENT PROCESS

REQUIREMENTS, RESOURCING AND ACQUISITION

Resources
and
Requirements

Technology,
Acquisition,
and Logistics

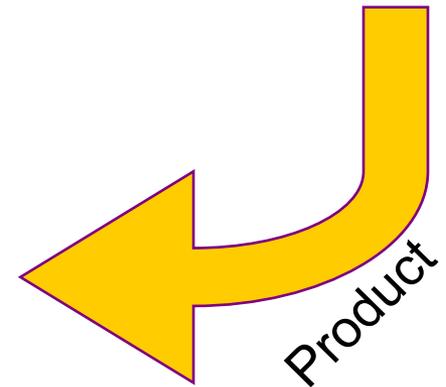
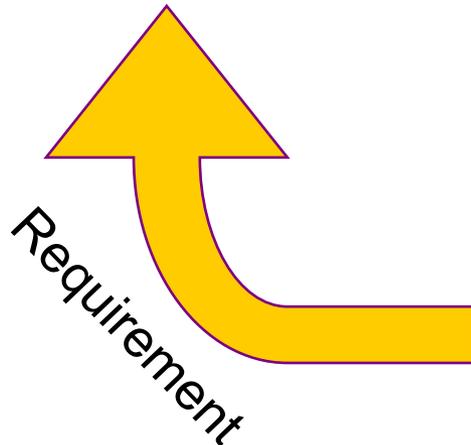
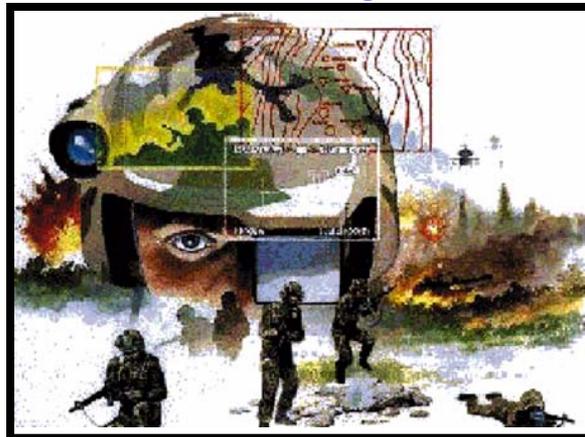


Requirements
Validation and Approval

Planning, Programming,
and Budgeting

Acquisition &
Technology
Management

SOF Warfighter



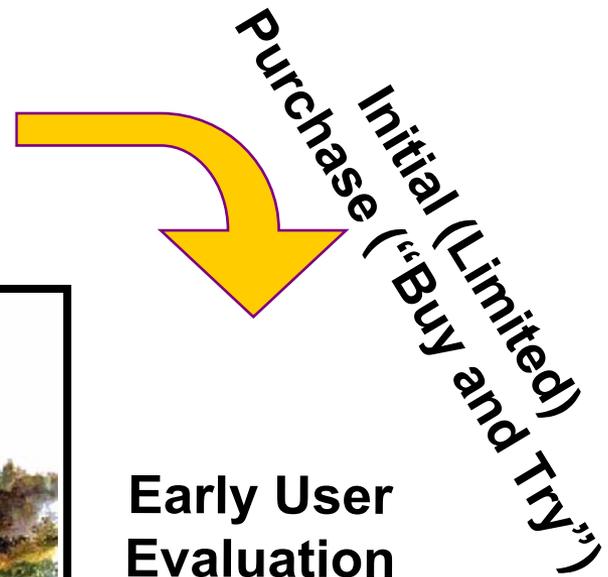
AFSOC, USASOC, NAVSPECWARCOM, Theater SOCs, JTF
Operations and Sustainment

THE 80% SOLUTION PROCESS



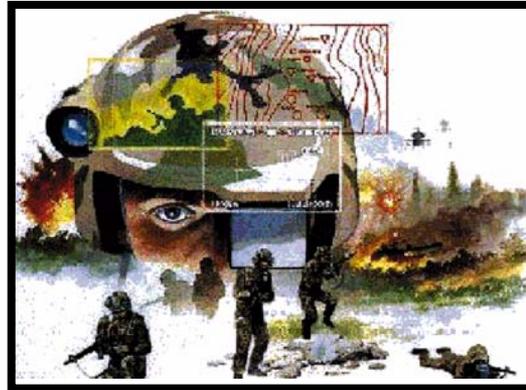
Requirement

Market Survey



Go for the Other 20%!

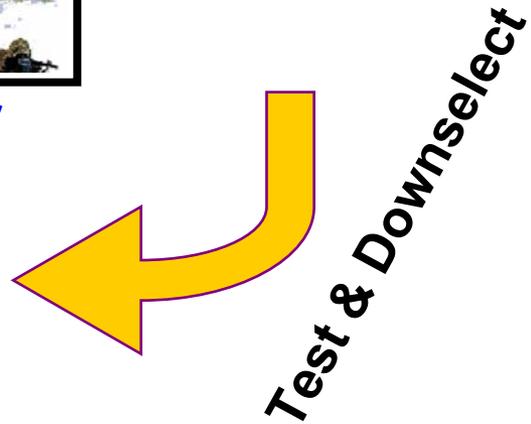
- Next Gen. Product
- Tech. Insertion



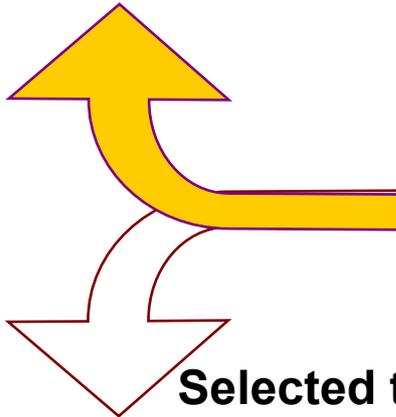
SOF Warfighter

Early User Evaluation

Improve and Sustain Product



Modify, Test and Field Product

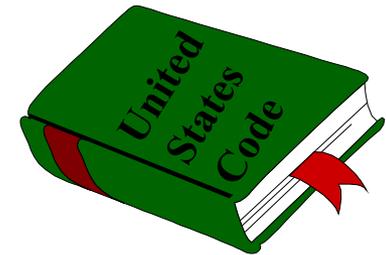


Selected transitions to services become common issue items



ACQUISITION AUTHORITY

COMMANDER USSOCOM's Authority (10 USC Section 167)

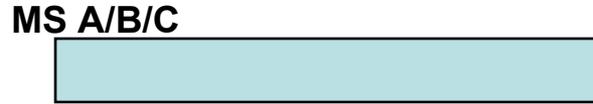


- Develop and Acquire Special Operations-Peculiar Equipment
- Acquire Special Operations-Peculiar Material, Supplies, and Services
- Head of Agency for Acquisition Authority
- Head of Contracting Activity

SOCOM ACQUISITION APPROACHES



**Mature Technology
COTS/GOTS**



**Mature Technology;
Modified NDI**

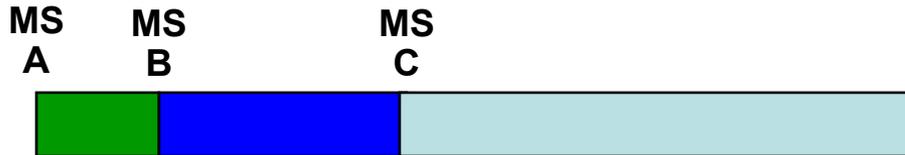


**Mature Technology;
Minimal RTD&E**

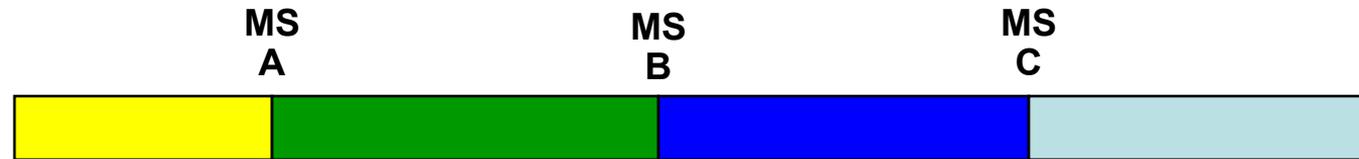


**Approaches for
Rapid Acquisition**

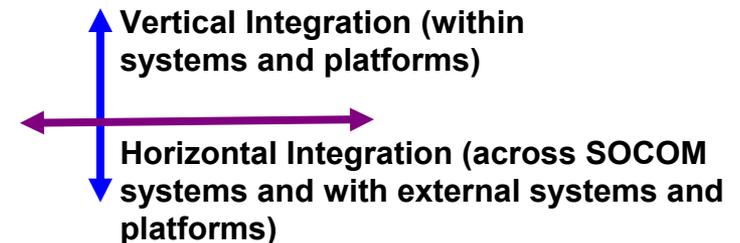
**Minimal Technology
Development, Some
System Development**



**Significant Technology
Development, Significant
System Development**



Two types of System Engineering processes exist depending on system interfaces:

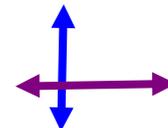


WHO MANAGES SOF ACQUISITION PROGRAMS?

Program Management Structures

Milestone Decision Authority →	USSOCOM		MILDEP
	USSOCOM	MILDEP	MILDEP
Program Manager →			
% , by quantity, of MFP-11 Acq Programs →	52%	22%	26%

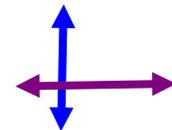
- **SOAE is initial MDA for all programs.** Program structure is approved at or before Milestone B.
- Policy and procedures vary by structure:
 - For **USSOCOM MDA-USSOCOM PM programs**, D70-1 & SOAL SOP apply. Exceptions are noted in Acquisition Decision Memoranda (ADMs).
 - For **USSOCOM MDA-MILDEP PM programs**, responsibilities and exceptions to SOCOM procedures are defined in Program Specific MOAs
 - For **MILDEP MDA programs**, USSOCOM policy and procedures normally do not apply





SOCOM SE CHALLENGES

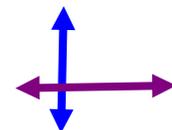
- **Manpower and skill levels (few Engineers on staff)**
- **Working SE topics across MILDEP SE processes and systems (ACAT I, II)**
- **Understanding technical details of GOTS/COTS/NDI systems in order to successfully interface with existing systems and platforms (conventional and SOF)**





SE IMPLEMENTATION PLAN

- **Increased emphasis on SE principles IAW USD(AT&L) direction**
- **Tiered approach from AE down to PM**
 - **Create overarching SOCOM SE board to monitor status of implementation and work cross system, cross process, cross MILDEP issues**
 - **Assign dedicated System Engineer and Technology Director at PEO level**
 - **Use System Engineering Plan as overarching program management document (where appropriate)**
 - **Continue to augment SOCOM staff with System Engineering support from MILDEPs and contractors**
 - **Work with DAU (South) to provide on-site training appropriately tailored for our acquisition workforce**



SUMMARY

- **System Engineering is, and will continue to be, an integral part of SOCOM acquisition and sustainment processes**
- **SOCOM success in System Engineering is heavily dependent on system engineering expertise and processes of:**
 - MILDEPs
 - Industry
- **Our System Engineers face unique challenges given the diversity of platforms, users, systems, and operating environments**
 - 80% solutions
 - Many SOCOM systems installed in platforms owned and developed by others (Services, MILDEPS)
 - COTS/NDI



EXAMPLE: MH-47G PROGRAM

SE Challenge: Army Platform, Army and SOF Systems



Special Operations Modifications



SOF MH-47
Base Model

Army-Common Improvements
to CH-47 Fleet

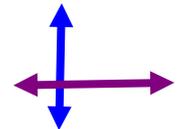


Special Operations Improvements
to CH-47 and MH-47 Variants



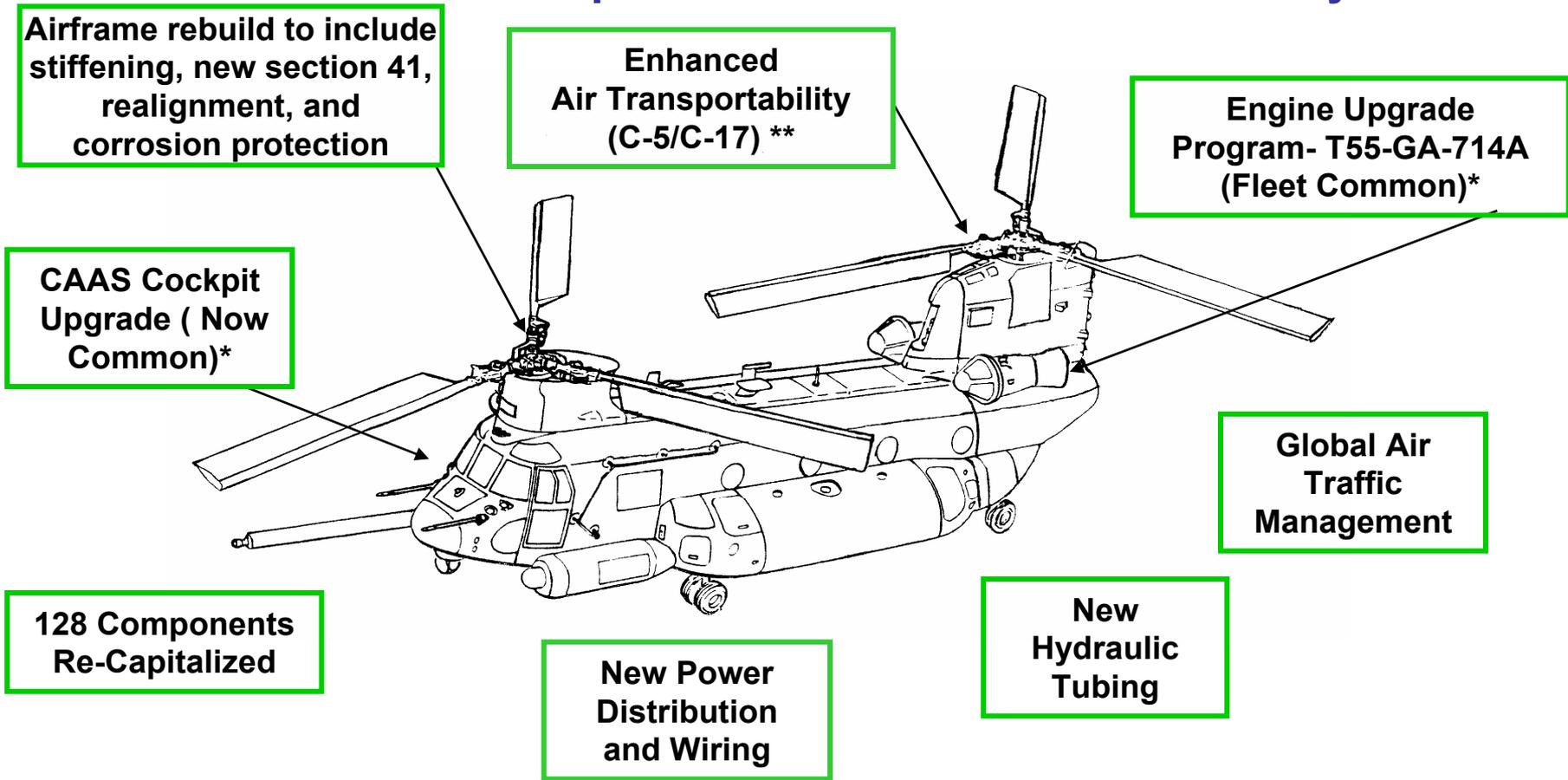
SOF MH-47G

- Army funds 85% of basic aircraft and Army-common improvements
- SOCOM funds 15% of base model aircraft, 15% of army-common improvements, and 100% of special operations modifications
- Army has adopted several previous special operation modifications as Army-common improvements



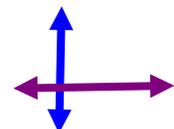
EXAMPLE: MH-47G PROGRAM (Cont.)

Incorporates Army improvements and Previous SOF improvements now considered Army Common



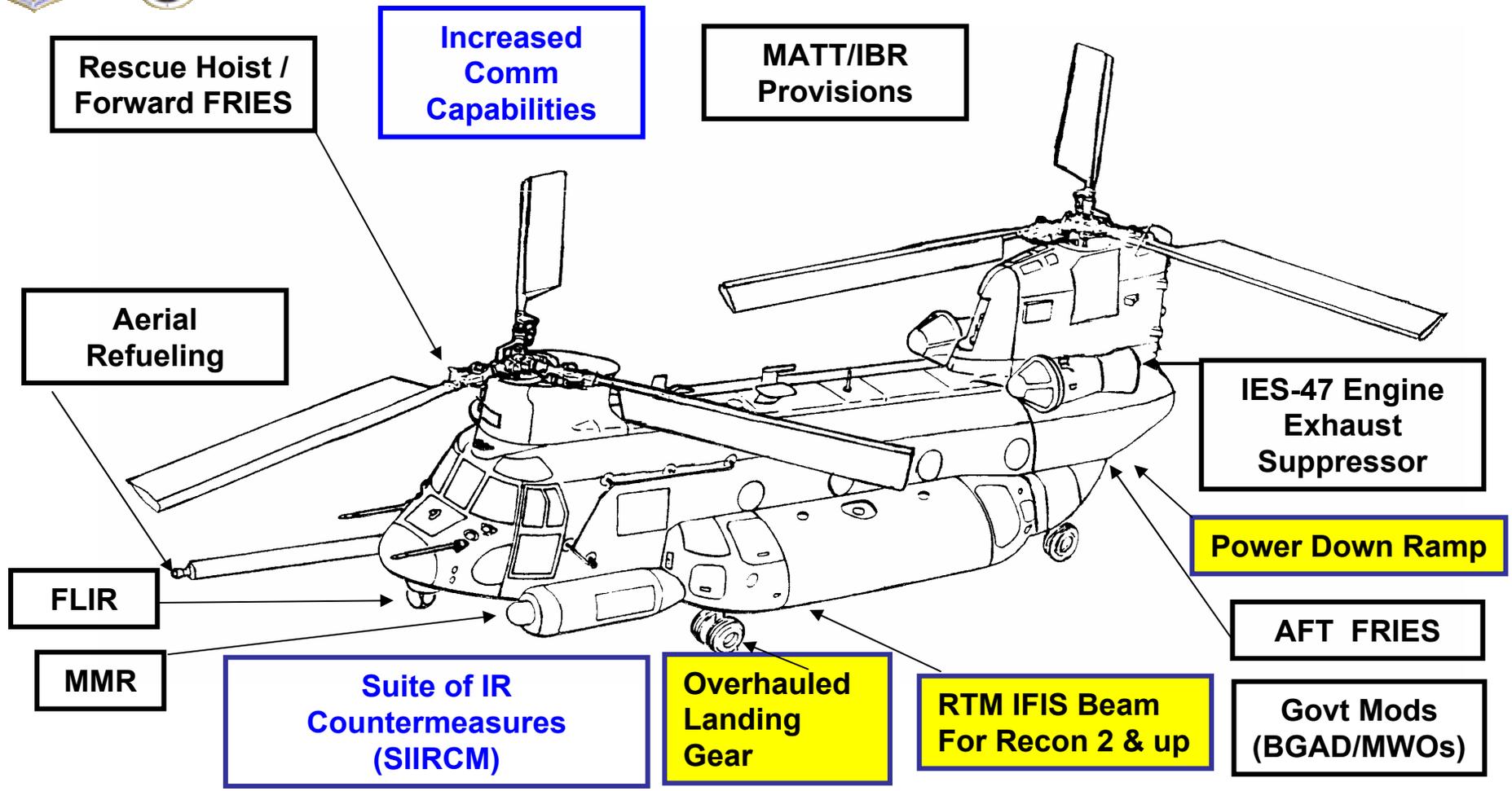
* SOCOM developed, subsequently adopted by conventional Army aviation
 ** SOCOM/Army Joint Development

Legend: Army-Common Improvement



EXAMPLE: MH-47G PROGRAM (Cont.)

Incorporates SOF Capabilities

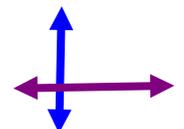


Legend:

Existing SOF Systems

New SOF Systems

SOF Systems Improvement



EXAMPLE: SOF FLIR PROGRAM

SE Challenge: Integrating Modified COTS with Existing Systems and Platforms



Maritime FLIR on
MK V Special Operations Craft



Maritime FLIR adapted to
SOF Mission Enhanced
HMMWV in Iraq



Maritime FLIR adapted to SOF
Mission Enhanced Little Bird, A/MH-6

