

Aeronautical Systems Center

Dominant Air Power: Design For Tomorrow...Deliver Today

*Acquisition Research Program:
Creating Synergy for Informed Change*



Acquisition Changes-- and Challenges

U.S. AIR FORCE

**Lt Gen Tom Owen
Commander
ASC**

7th Annual Acquisition Research Symposium, 11-13 May 2010

Report Documentation Page

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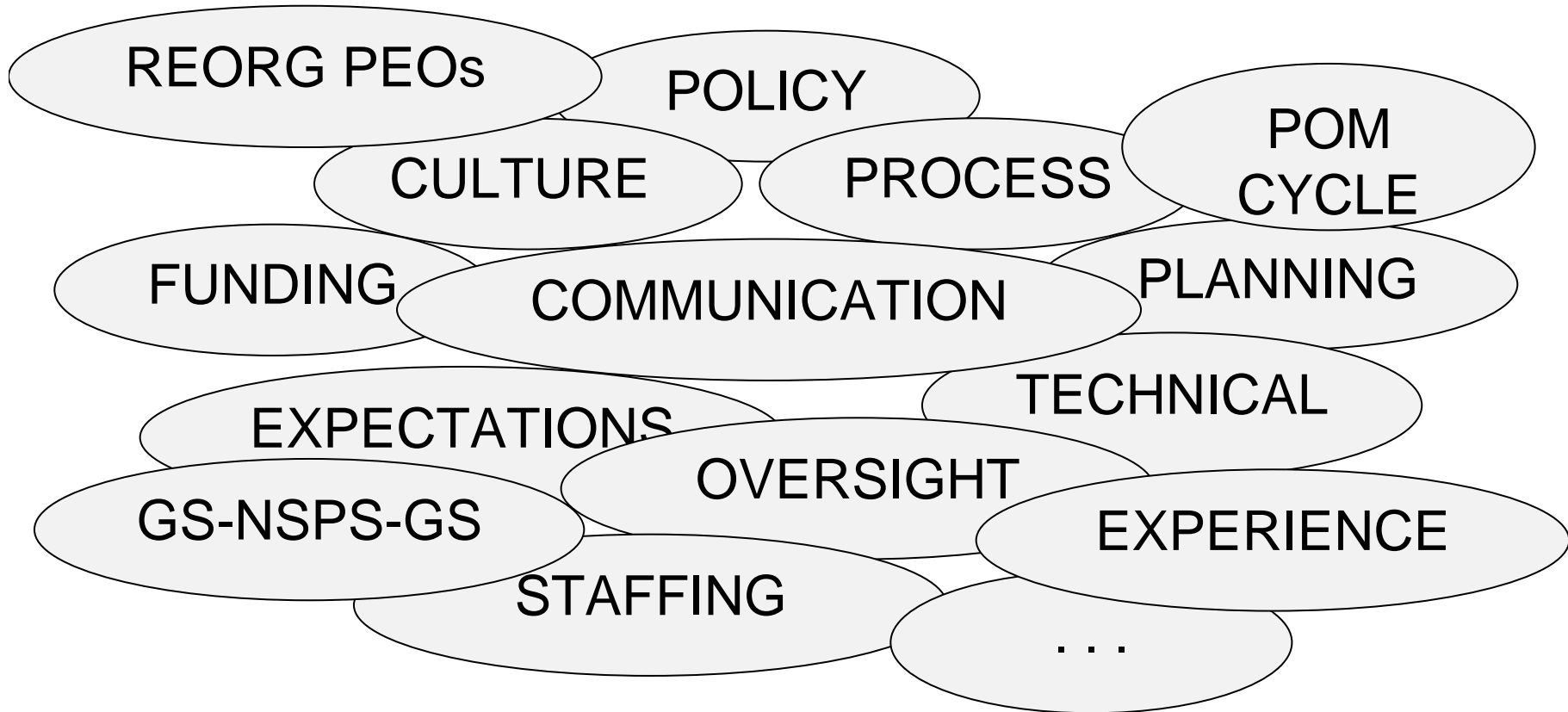
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Acquisition Challenges

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***IT'S NOT ABOUT THE CHANGES
– IT'S HOW WE RESPOND TO THEM***



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Agenda



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- **Recent DoD, AF policy changes**
- **Workload Implications**

- **Aeronautical Portfolio**
- **Imperatives**
- **Acquisition Improvement Plan**
- **AF, ASC Response**

- **Research topics requiring critical thinking**
- **Summary**

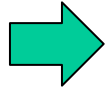


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DoD Instruction 5000.02

Operation of the Defense Acquisition System



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In 2008, SECDEF Robert Gates declared:

“...this department must ...**stop programs that significantly exceed their budget** or which spend limited tax dollars to buy more capability than the nation needs...we must ensure that **requirements are reasonable** and technology is adequately mature to allow the department to **successfully execute the programs...**”



Dec 08: New DoDI 5000.02 mandated:



(a) **New Acquisition milestone:**
Materiel Development Decision (MDD)



(b) **New policy:** Competitive Prototyping in Technology Development Acquisition Phase



(c) **New policy:** Conduct Preliminary Design Review (PDR) prior to Milestone B

DEVELOPMENT PLANNING ENSURES REQUIREMENTS ARE REASONABLE AND TECHNOLOGY IS MATURE



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Weapon System Acquisition Reform Act (WSARA), PL 111-23

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- “Ensure acquisition involvement and leadership in support of the lead command early in the development of program requirements”
- Ensure the AF has provided appropriate resources for
- Development planning and systems engineering organizations with **adequate numbers of trained personnel**
- In order to support key **requirements, acquisition, and budget** decisions
- For each major defense acquisition program prior to Milestone A approval through a rigorous systems analysis and systems engineering process ...

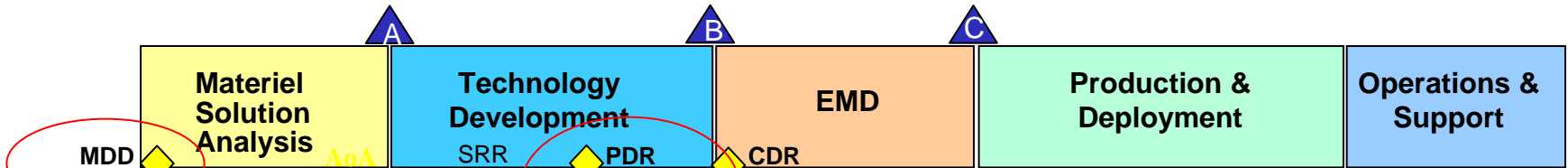
“THE UNITED STATES AIR FORCE IS COMMITTED TO RECAPTURING ACQUISITION EXCELLENCE...”



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Workload Implications of WSARA and DoDI 5000.02

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MDD:
 Concept descriptions for Analysis of Alternatives (AoA) guidance

M/S-A Expectations:

- Cost Baseline/ Estimations
- System Engineering Plan
- Technology Development Strategy
- Test and Evaluation Master Plan

Competition thru PDR before M/S-B

- Timing of approved operational requirements
- Acquisition strategy -- timing of down select and associated strategy
- Minimize time between PDR and M/S-B
- Timing of TRL 6

- Must support the DoD's 3 major decision support systems:
 - Planning, Programming, Budgeting, Execution (PPBE)
 - Joint Capabilities Integrated Development System (JCIDS)
 - Defense Acquisition System (DAS)

IMPACTS ACROSS THE INTEGRATED LIFE CYCLE MANAGEMENT (ILCM) SPECTRUM



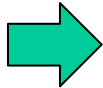
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Aeronautical Systems Portfolio



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Pre MS-B	ASC/XR - Developmental Planning (DP)	MQ-X, CVLSP, T-X, Light Mobility Aircraft (LiMA), Joint Future Theater Lift (JFTL)
Acquisition Programs	77 AESW – Agile Combat Support	Human Systems, Propulsion, Simulators, Special Programs, Training Aircraft (T-1A, T-38, T-6A), Combat Electronics
	303 AESW – ISR	Global Hawk, Predator/Reaper, CV-22, Special Operations Aircraft (AC-130, HC/MC-130), Battlefield Airman, CSAR-X
	312 AESW – Fighter/ Bomber	F-22A, F-16, F-15, JSF, B-2, B-1, B-52, A-10
	516 AESW – Mobility	C-17, C-5, C-130, LAIRCM, KC-X, OSA/VIPSAM



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Imperatives



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- **Get technologically superior capability into the hands of the warfighter – quicker**
 - Launch high confidence programs
- **Reduce Integrated Life Cycle Management (ILCM) time, cost, risk**
- **Invest in the future and our people**

***WITHIN A VERY DIVERSE PORTFOLIO - WITH MULTIPLE
COMPLEX INTERDEPENDENCIES***



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AF Acquisition Improvement Plan (AIP)



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Air Force 2008-2010 Strategic Plan

- *Continue to Strengthen the Nuclear Enterprise*
- *Win Today's Fight*
- *Develop & Care for Airmen & Families*
- *Modernizing Aging Air & Space Inventories*
- **Recapture Acquisition Excellence**

- **Acquisition Improvement Plan (AIP)**
 - **Revitalize the Air Force acquisition workforce**
 - **Improve requirements generation process**
 - **Instill budget and financial discipline**
 - **Improve Air Force major systems source selections**
 - **Establish clear lines of authority and accountability within acquisition organizations**



"THE AF IS COMMITTED TO RECAPTURING ACQUISITION EXCELLENCE..."



Revitalize the Acquisition Workforce



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- Responding to directed changes requires new skills
- Getting the right skills/skills mix and authorizations
 - Early program planning requires unique experience and skills not developed through training alone
- Ensuring ASC maintains a well trained acquisition workforce
 - While replacing a substantial number of current employees as they become eligible for retirement
- Recapturing acquisition expertise to translate operational requirements into system requirements-
 - Eroded after losing Development Planning function
- Taking care of our people and their careers
- Being ready for future work



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Improve Requirements Generation Process



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- **Disciplined, repeatable processes from JCIDS CBA (pre-ICD) to AoA; Pre-MDD Focus**
 - Inform decision makers on technical feasibility of prospective concepts for materiel solutions
 - Initial integrated risk assessment addressing both operational and programmatic issues
- **Support realistic program formulation through application of early Systems Engineering**
 - Robust and disciplined up-front technical planning
 - **Solid technical foundation for the future program**
 - Reduce the chance of poorly planned concepts emerging from AoA with relatively high rankings
 - Extensive user/developer collaboration early & throughout lifecycle

KEY ENABLER FOR DEVELOPMENT PLANNING



Definition of Development Planning



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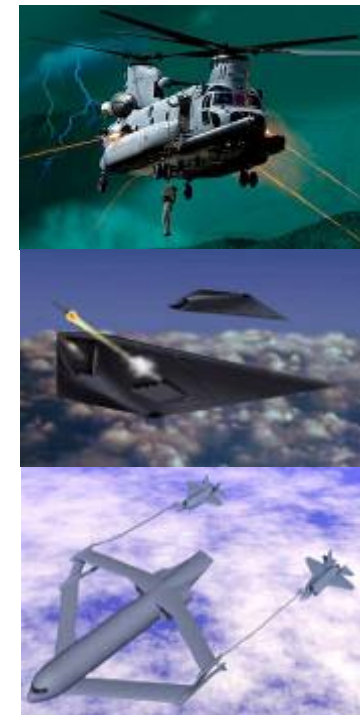
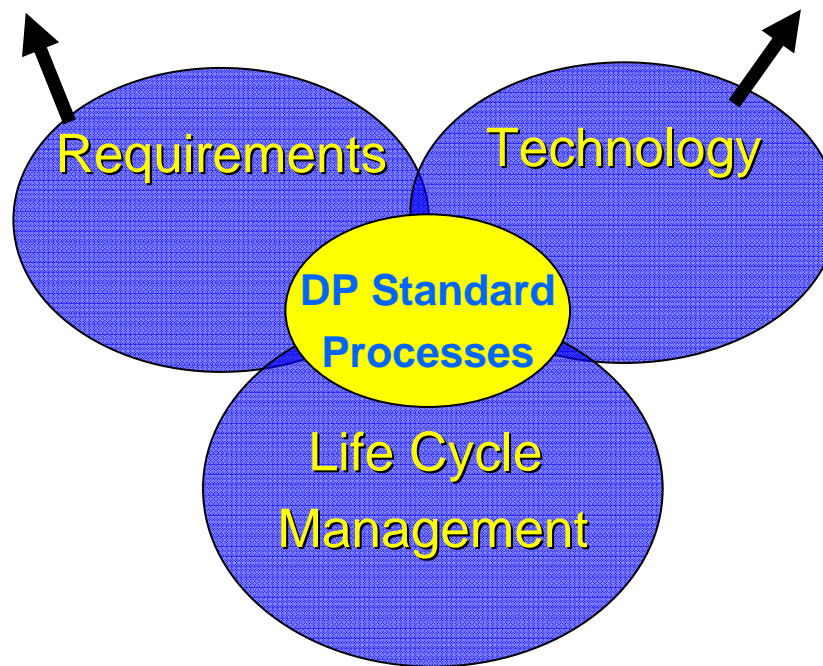
“DP is a collaborative process bridging warfighter-identified capability needs to planning for acquisition of materiel solutions”

- DRAFT AFMCI 10-605, “Development Planning”

- Bridge warfighter capability needs
- Evaluate system-of-systems concepts
- Incorporate life-cycle planning
- Understand technology gaps
- Identify/assess risks
- Launch high confidence programs



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ASC Initiatives



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- **High Value Initiatives**
 - **Implement Integrated Life Cycle Management (ILCM) into our program planning & execution**
 - **Revitalize Development Planning**
 - **New work planning and acceptance**
 - **Assess impact of DoDI 5000.02 changes on ASC processes**
 - **Identify opportunities to streamline ILCM governance & reporting**
 - **Develop & Care for our People**
 - **Improve Strategic Hiring**
 - **Identify Skills to fully implement ILCM at ASC**
 - **Develop Our Workforce**

LEANING FORWARD TO IMPROVE STARTING ACQUISITION PROGRAMS RIGHT



Leveraging Multiple Hiring Programs



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- **Expedited Hiring Agreement (EHA)**
 - Able to tap into special resources
- **NDA Section 852, DoD Acquisition Workforce Development Fund**
 - Identify types and skills needed in the acquisition workforce
- **Acquisition Excellence**
 - Increased manning priority for civilian and military acquisition positions
- **Science, Technology, Engineering and Mathematics (STEM)**
 - Resources will be affordable, scalable, agile, and seamlessly aligned with the AF mission and strategies – recruit using EHA
- **Competency Development Initiative (CDI)**
 - Enables a common approach to personnel management; utilizes a single methodology, management structure, assessment process across the AF

***NEED LEADERSHIP SUPPORT AND DISCIPLINE TO ENFORCE
POLICIES & PROCEDURES***



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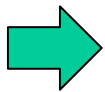
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Research Topics Requiring Critical Thought



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- Science for sustainment
- Proactive anticipation of workload and the resources and skills it takes to systematically plan and assess capability needs and solutions
- How can a Continuous Improvement culture be instilled in a large hierarchical organization?
- New acquisition policy adds a number of reviews--what's the right balance of "Insight" vs "Oversight" in the acquisition system
- Collaboration ensures the requirer, developer, funder, acquirer, tester, sustainer are on the same page. How is this possible given the complexities of a Family of Systems & Systems of Systems environment?



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Summary



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- **Change is a constant!**
 - Reorganizations, funding constraints, requirements, increased workload, people, improvement efforts
 - Renewed emphasis on Development Planning
- **It's not about the changes – it's how we respond to them**
 - Adapt and benefit from the challenge!
 - Continuous process improvement/adaptation

REQUIRES A TEAM EFFORT TO RE-CAPTURE ACQUISITION EXCELLENCE!



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Back-Up

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AF, ASC Responding

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- **Revitalize Development Planning**
 - Recognizing life cycle implications
- **Institutionalize Early Systems Engineering as a core enabling process**
- **Leverage multiple hiring programs to fill skills gaps**

***NEED LEADERSHIP SUPPORT AND DISCIPLINE TO ENFORCE
POLICIES & PROCEDURES***



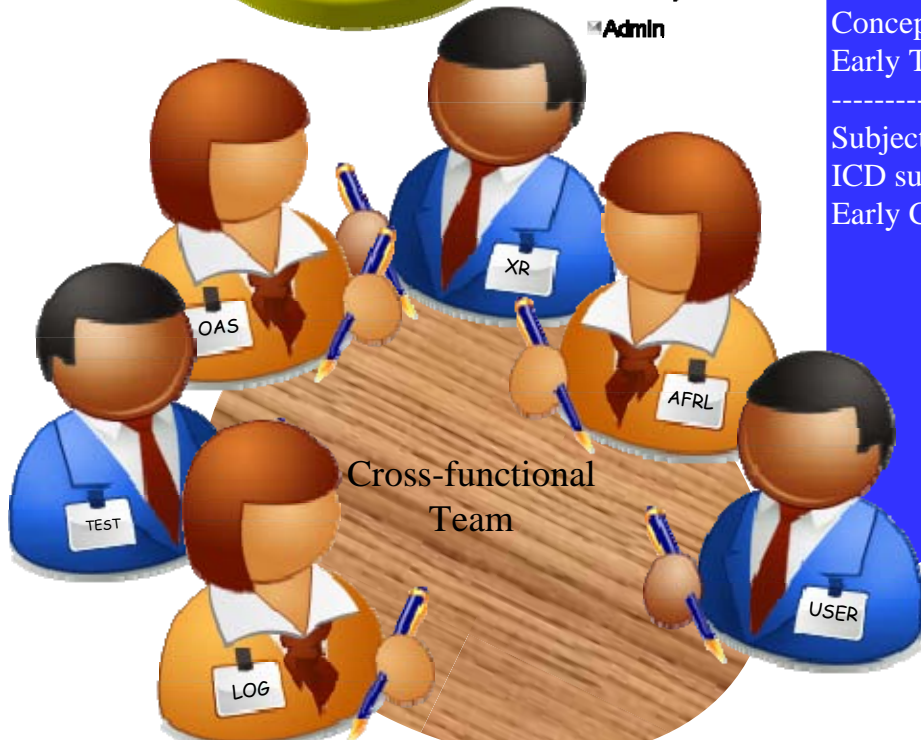
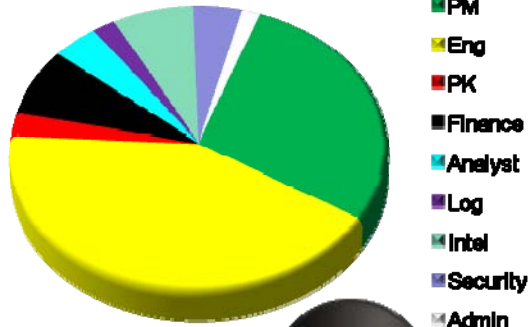
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DP Informs Requirements Generation



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DP Skill Sets



DP Team

Collaborates to provide:

Concept definition & Tradespace analysis
 Early Technology Evaluations

Subject Matter Experts (SMEs) for CBA
 ICD support & analysis
 Early CDD support

Requirements that are:

- Measurable
- Testable
- Attainable
- Evaluatable
- Executable

AFROC Validation & AFMC, SAF/AQ, & AFOTEC Certification

DP produces feasible, affordable, evaluatable requirements



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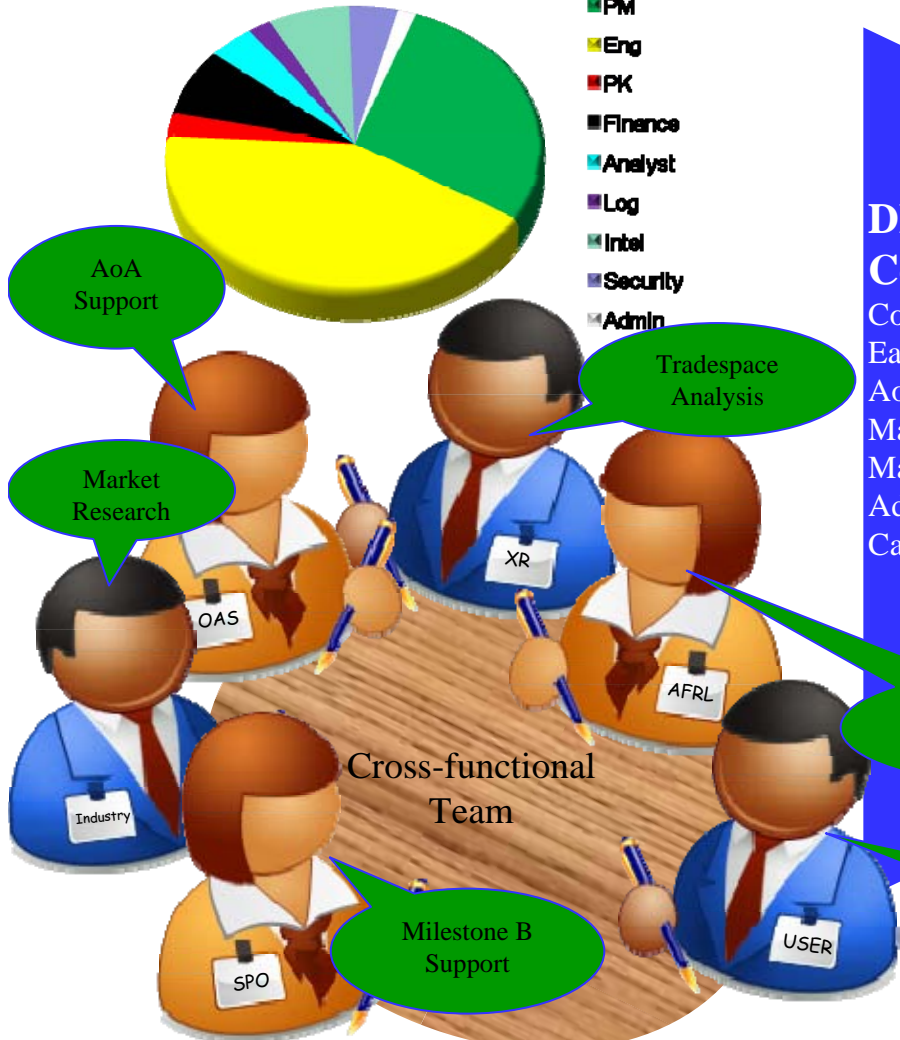
DP Team Provides Solution Options



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DP Skill Sets

- PM
- Eng
- PK
- Finance
- Analyst
- Log
- Intel
- Security
- Admin



DP Team

Collaborates to provide:

- Concept Definition/Tradespace Analysis
- Early Technology Evaluations
- AoA Support
- Material Options
- Market Research
- Advanced Concept Studies & Analysis
- Capability Roadmaps/Development Plans



...to define the solution trade space

DP defines materiel solution courses of action