

*Integrity - Service - Excellence*

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## **AFSO21 / D&SWS / Tech Development:**

### **Identify and Prioritize Tech Needs (TD-14)**

**26 Sep 2008**

**Mr. Keith Thompson, HQ AFMC/A5S  
Ms. Gail Steele, ASC/XRC**

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# Overview

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- ➔ ■ **D&SWS Overview**
- **TD-14: Identify & Prioritize Tech needs**
  - **Approach**
  - **Products**
  - **Schedule**
- **Payoff for Industry**
- **Summary**



# AFSO21/D&SWS is Part of the Answer



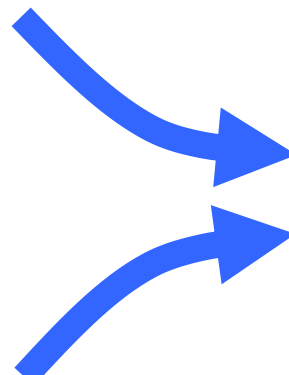
## Funding Our Priorities

"We will fund transformation through ... **organizational efficiencies, process efficiencies, reduction of legacy systems and manpower** while sustaining GWOT and ongoing operations in support of the Joint Fight."

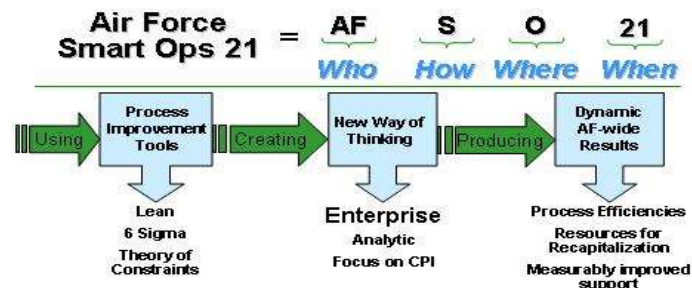
- Michael W. Wynne, SECAF



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## AF Smart Ops 21



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## The Status Quo is Out

### AFSO21

- The USAF will do less with less
- Do what is valued by our customers
- Employ tools and techniques smartly to reduce waste and non-value-added work, to maximize value to the warriors

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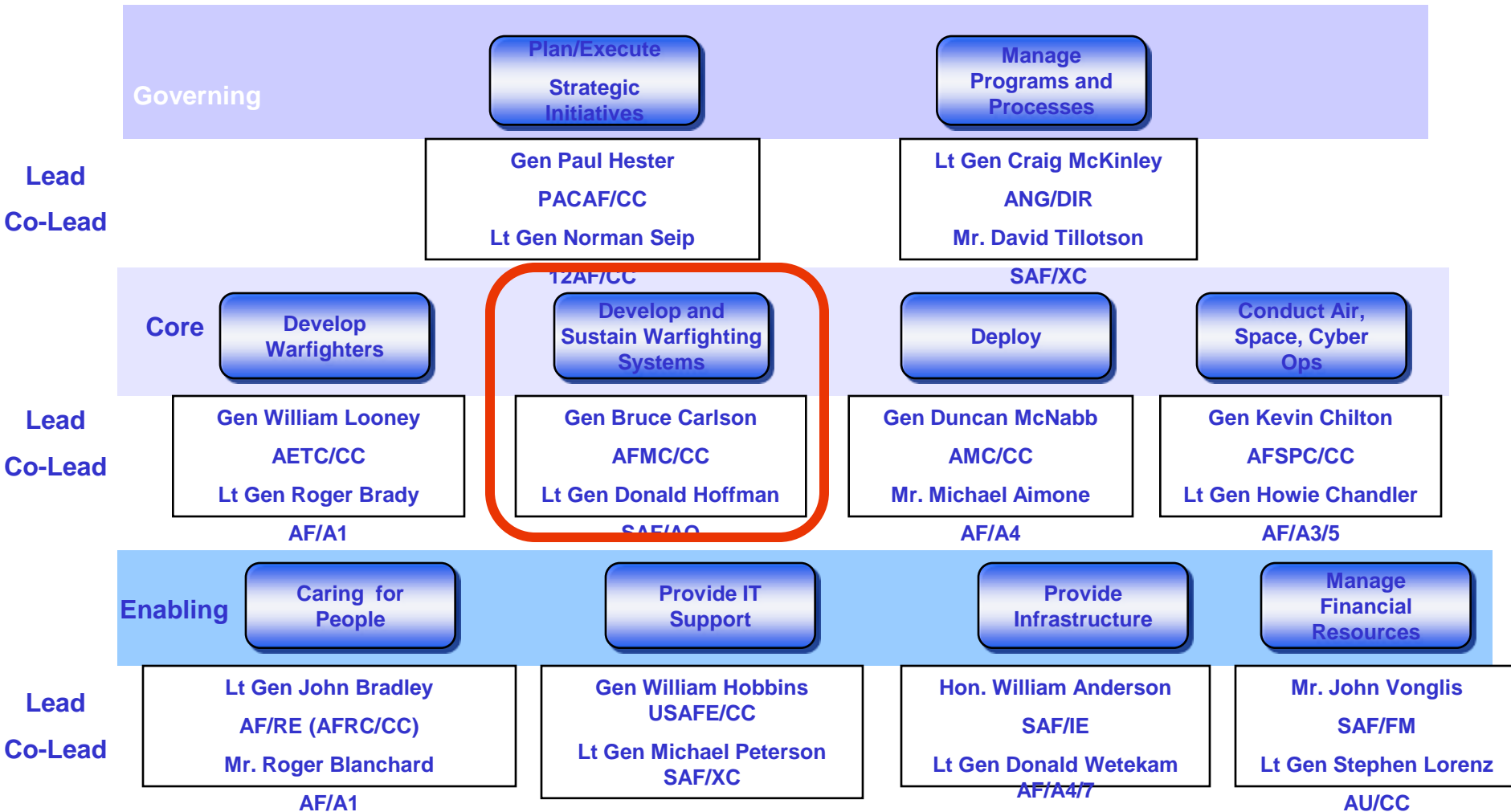
## CSAF Approved Process Owners

Governing	Material Strategy	Business Programs and Policies		
	Lead / Co-Lead Heater / Bell	Lead / Co-Lead McKinley / Tibbott		
Core	Develop Warfighting	Sustain Warfighting	Deploy	Support for Space, Cyber
	Lead / Co-Lead Looney / Brady	Lead / Co-Lead Carlson / Hoffman	Lead / Co-Lead McNabb / Almore	Lead / Co-Lead Chilton / Chandler
Enabling	Logistics Support	Proximal Support	Programs	Support Personnel
	Lead / Co-Lead Bradley / Blanchard	Lead / Co-Lead Hobbins / Peterson	Lead / Co-Lead Anderson / Welikam	Lead / Co-Lead Vongthong / Lorenz

**Develop and Sustain Warfighting Systems (D&SWS)**



# SECAF / CSAF Approved Air Force Process Owners



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# D&SWS Sub-Process Teams

(Jun '08)

Process Owner  
Co Lead

Gen Bruce Carlson  
Lt Gen Don Hoffman  
CPO: MG Marshall Sabol

## Institutionalize Standard Work

\*ESC/CA (Ms. Duntz)  
SAF/ACE Dir (Mr. DiCicco)  
AFMC/IG (Col Moran)

## Oversight / Command & Control

\*AFMC/A2/5 (BG Wolfenbarger)  
AQX Deputy (Mr. Shelton)  
SAF/IEL (Ms. Walker)

Advisors:  
BG Smoot (AFMC/A1)

## Technology Development

\*AAC/CA (Ms. Stokley)  
SAF/AQR (Mr. Jagers)  
AFRL/CC (MG Bedke)

## Continuous Capability Planning

\*AFMC/A2/5 (Mr. Brown)  
HAF/A5R (BG Mueller)  
SMC/CV (BG Mashiko)

## Lifecycle Management

\*ESC/CC (LG Bowlds)  
ASC/CA (Ms. Wright)  
OC-ALC/CC (MG Reno)

## Test and Evaluation

\*AFFTC/CA (Mr. Bond)  
AFOTEC/CC (MG Sergeant)  
AFMC/A3 (BG Lanni)

## Supply Chain Operations

\*HAF/A4I (Mr. Dunn)  
AFMC/A4 (BG Bruno)  
AFSPC/A4/7 (Ms. Puckett)

## Sourcing

\*AFMC/PK (Mr. Gill)  
SAF/AQC (Mr. Correll)



# TD Charter

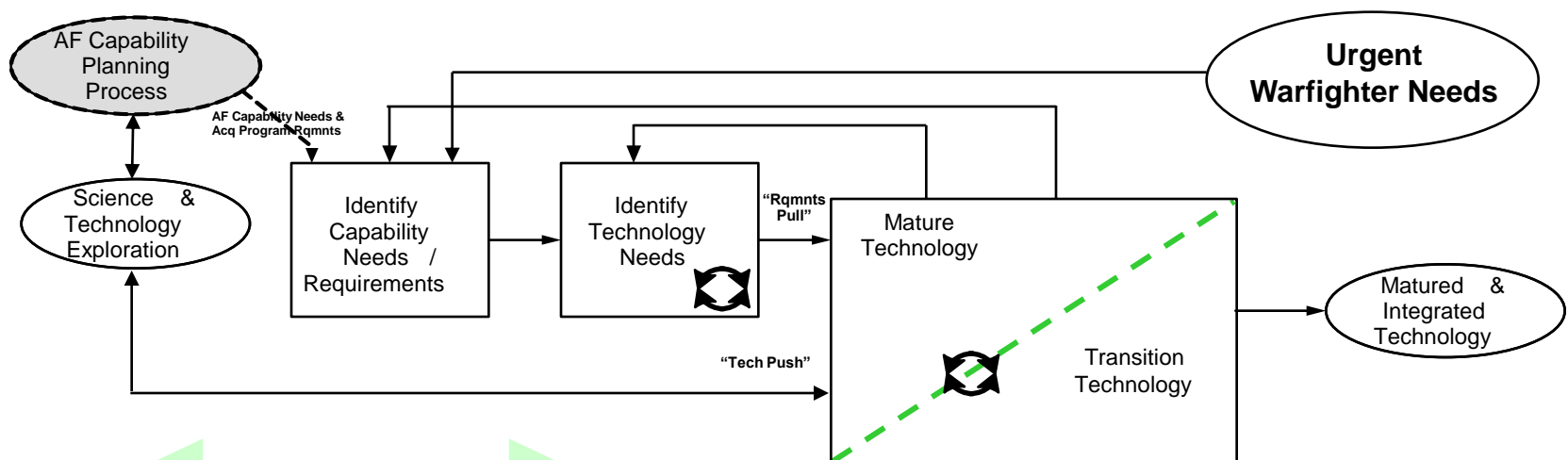
- **TD Initiatives Target 2 Key Problems:**
  - **Immature Technology in Acquisition Programs Leads to Cost Growth and Schedule Slip**
  - **Many Unprioritized Needs Lead to Sub-optimized Investments**

Approach

- **Implement 3 TD Initiatives to Institutionalize One AF Level Process to Manage Investments in Technologies to Ensure They are Mature for AF Systems**
- **Provide “Standard Work” In the Technology Development Arena Where It Makes Sense**



# Tech Development “To-Be” Process Opportunities for Improvement



- Comprehensive ID & prioritization of tech needs
  - Solves the problem of understanding/interpreting AF's Capability Needs and Program Rqmnts
- Game-changing “tech push” influencing capability planning (and vice versa)

**AF-Wide Requirements Database**



- More frequent maturity assessments
- More robust maturity assessments
- Common process/tool for Gov't & Industry

**Tech Maturity Assessment “Calculator”**



- Earlier transition planning
  - Combined with tech maturation planning
- Gated reviews to ensure timely and robust tech development
  - Also enables tech off-ramps to support Acq “Time Certain Capability”

**Transition Planning & Stage-Gating Tool**

**Tools**



# Overview

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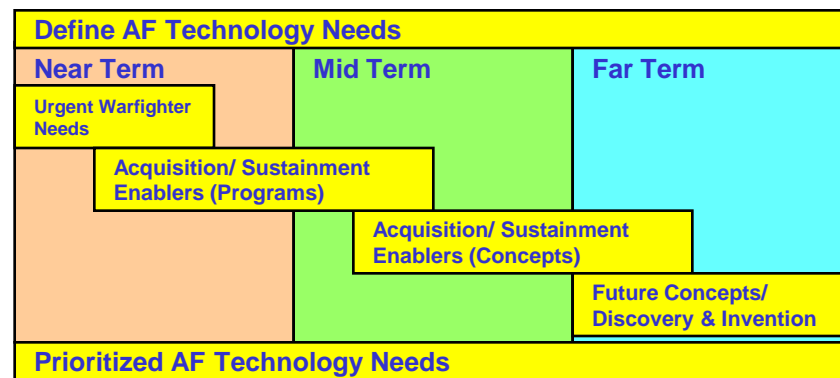
- D&SWS Overview
- ■ TD-14: Identify & Prioritize Tech needs
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# Identify/Prioritize Tech Needs (TD-1-14)

## Overview / Description

- Initiative will enable the Science & Technology community to:
  - Focus technology development efforts on Air Force's highest priority 'Tech Needs'
  - Incorporate technology advancements into capability planning and requirements processes/documentation to improve the opportunity for game changing 'Tech Push'
- This will be accomplished by:
  - Leveraging/aligning existing processes to collect and document technology needs
  - Develop and apply criteria for prioritizing technology needs
  - Using a systems engineering process grouping technology needs into 3 general categories



Highest needs in near-mid-far buckets vs 1 to n



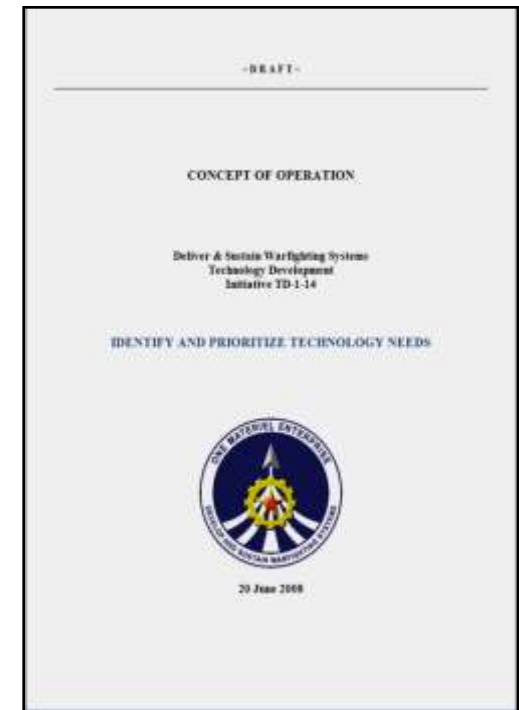
# TD-1-14 Products

## 1. Concept of Operation (codified in instructions)

- Tech Needs Identification & Prioritization Processes
- Strategic Battle Rhythm
- Prioritization Criteria
- Tech Needs Template
- Lexicon of Terms & Definitions
- Systematic Linkage of Tech Push to Capability Planning

## 2. Database Tool

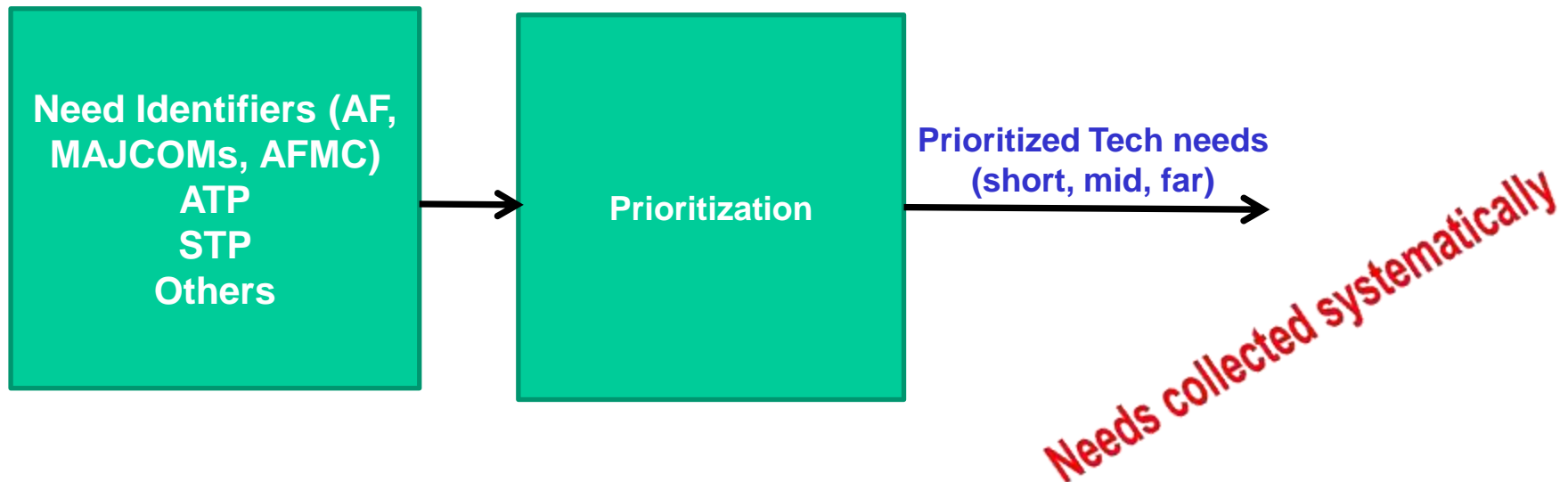
## 3. Training materials





# Tech Need Identification/Prioritization Process Framework

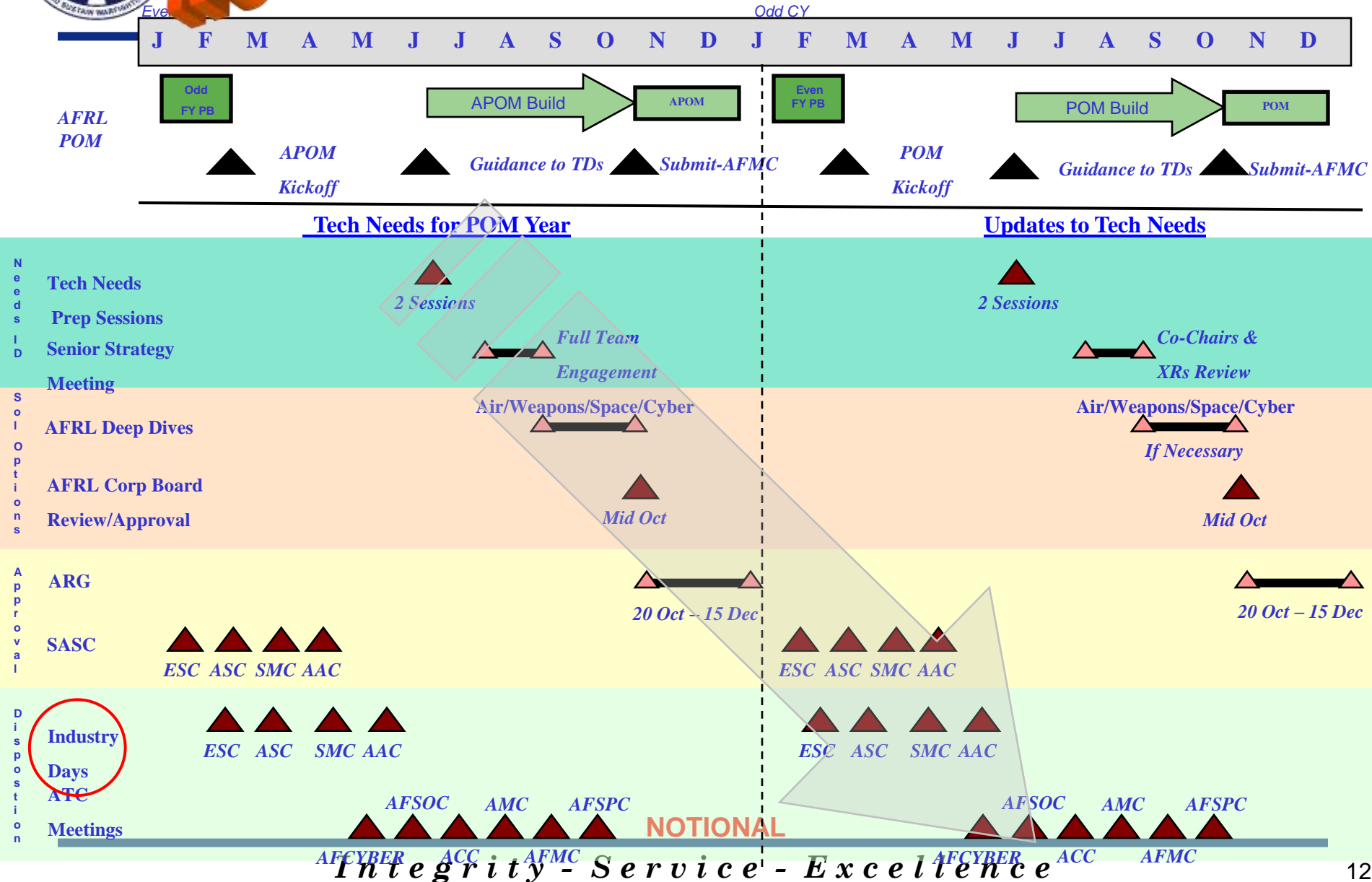
- Envision using existing/revised processes to ID tech needs
  - Sustainment Technology Process (STP)
  - Acquisition Technology Process (ATP)





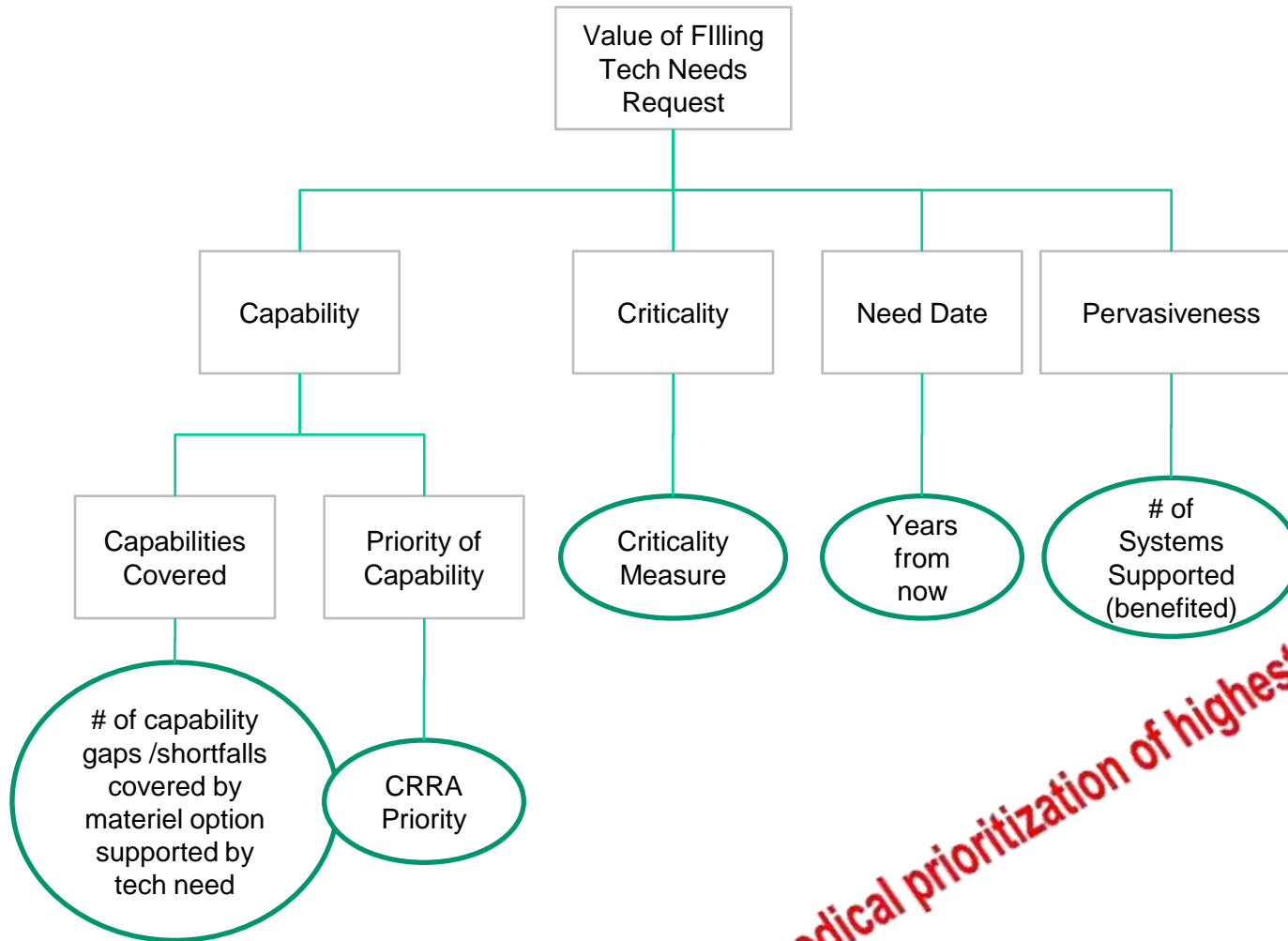
# Notional

## Proposed Key S&T Battle Rhythm





# Prioritization Model (Draft)



**Methodical prioritization of highest priority needs**





# Database Tool

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## ■ Envisioned tool

- Central repository for tech needs
- Assist in efficient mgt of data calls
- Simplify like-comparisons for feeding S&T strategy
- Support POM builds
- Needs-to-solution tracking
- Metrics
- Feedback

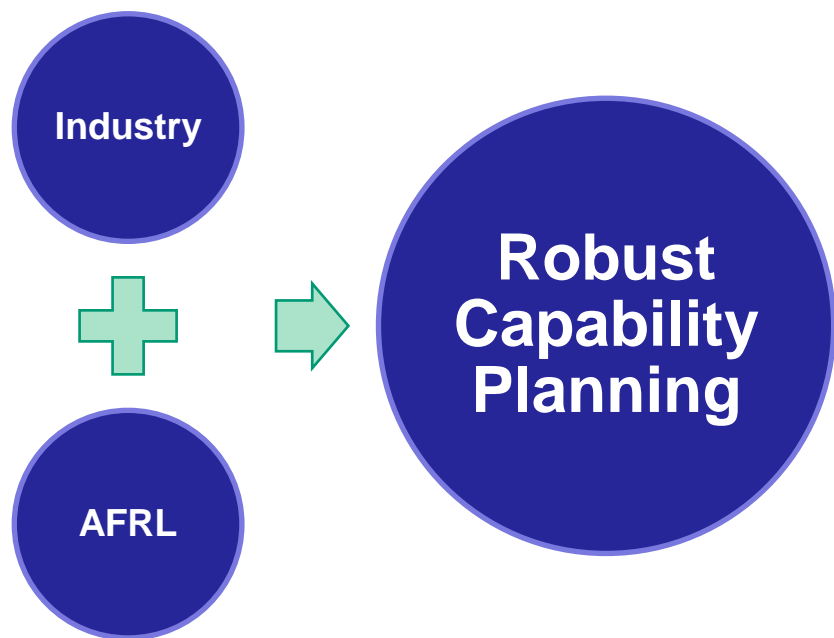
## ■ Two-part effort

- Conduct study & associated tool recommendation
- Tool modification

Will assess industry access



# Systematic Linkage of Tech Push to Capability Planning



## ■ Task:

- Identify problem areas
- Modify/formulate tech push methodology
- Incorporate methodology into policy

**Work in progress**



# Initiative Schedule

Task Name	Start	Finish	2008												2009						
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Technology Development	Fri 2/1/08	Fri 7/31/09	[Gantt bar spanning from Jan 2008 to Jul 2009]																		
TD-14 Products	Fri 2/1/08	Fri 7/31/09	[Gantt bar spanning from Jan 2008 to Jul 2009]																		
CONOPS	Fri 2/1/08	Thu 11/20/08	[Gantt bar spanning from Jan 2008 to Nov 2008]																		
Tech Need Identification & Prioritization Process Methodology	Mon 9/22/08	Fri 10/31/08	[Gantt bar spanning from Sep 2008 to Oct 2008]																		
Determine if additional methodology needed beyond ATP & STP	Mon 9/22/08	Fri 10/31/08	[Gantt bar spanning from Sep 2008 to Oct 2008]																		
Strategic Battle Rhythm	Tue 5/20/08	Fri 11/7/08	[Gantt bar spanning from May 2008 to Nov 2008]																		
Collect Process Dates from Team	Tue 5/20/08	Fri 10/17/08	[Gantt bar spanning from May 2008 to Oct 2008]																		
Revise Battle Rhythm	Mon 10/20/08	Fri 11/7/08	[Gantt bar spanning from Oct 2008 to Nov 2008]																		
Prioritization Criteria	Wed 8/20/08	Tue 10/28/08	[Gantt bar spanning from Aug 2008 to Oct 2008]																		
Build & Test Draft Prioritization Model	Wed 8/20/08	Tue 10/7/08	[Gantt bar spanning from Aug 2008 to Oct 2008]																		
Adjust Prioritization Model (based on test feedback)	Wed 10/8/08	Tue 10/28/08	[Gantt bar spanning from Oct 2008 to Oct 2008]																		
Tech Needs Template	Mon 2/4/08	Tue 10/28/08	[Gantt bar spanning from Feb 2008 to Oct 2008]																		
Develop Draft	Mon 2/4/08	Mon 6/16/08	[Gantt bar spanning from Feb 2008 to Jun 2008]																		
Revise Template for consistency w / Prioritization Model	Wed 10/8/08	Tue 10/28/08	[Gantt bar spanning from Oct 2008 to Oct 2008]																		
Lexicon of Terms & Conditions	Fri 2/1/08	Fri 10/10/08	[Gantt bar spanning from Feb 2008 to Oct 2008]																		
Create & Refine Draft	Fri 2/1/08	Fri 9/5/08	[Gantt bar spanning from Feb 2008 to Sep 2008]																		
Collect Team Comments & Revise	Mon 9/8/08	Fri 10/10/08	[Gantt bar spanning from Sep 2008 to Oct 2008]																		
Systematic Linkage between Tech Push & Capability Planners	Tue 5/20/08	Thu 11/20/08	[Gantt bar spanning from May 2008 to Nov 2008]																		
RLTC Brief	Tue 5/20/08	Tue 5/20/08	[Gantt bar spanning from May 2008 to May 2008]																		
Understand Scope of Problem	Mon 9/22/08	Fri 10/17/08	[Gantt bar spanning from Sep 2008 to Oct 2008]																		
Dev Recommended Methodology/Policy changes	Mon 10/20/08	Thu 11/20/08	[Gantt bar spanning from Oct 2008 to Nov 2008]																		
Database Tool	Sun 6/1/08	Fri 7/31/09	[Gantt bar spanning from Jun 2008 to Jul 2009]																		
Conduct Study	Sun 6/1/08	Mon 9/1/08	[Gantt bar spanning from Jun 2008 to Sep 2008]																		
Present Recommendation to T2 Council (Tentative Date)	Wed 10/1/08	Wed 10/1/08	[Gantt bar spanning from Oct 2008 to Oct 2008]																		
Modify Existing Tool	Thu 1/1/09	Fri 7/31/09	[Gantt bar spanning from Jan 2009 to Jul 2009]																		
Training Materials	Mon 9/15/08	Fri 7/31/09	[Gantt bar spanning from Sep 2008 to Jul 2009]																		
Training Plan	Wed 10/1/08	Fri 10/31/08	[Gantt bar spanning from Oct 2008 to Oct 2008]																		
Training Course	Mon 9/15/08	Fri 7/31/09	[Gantt bar spanning from Sep 2008 to Jul 2009]																		



# Overview

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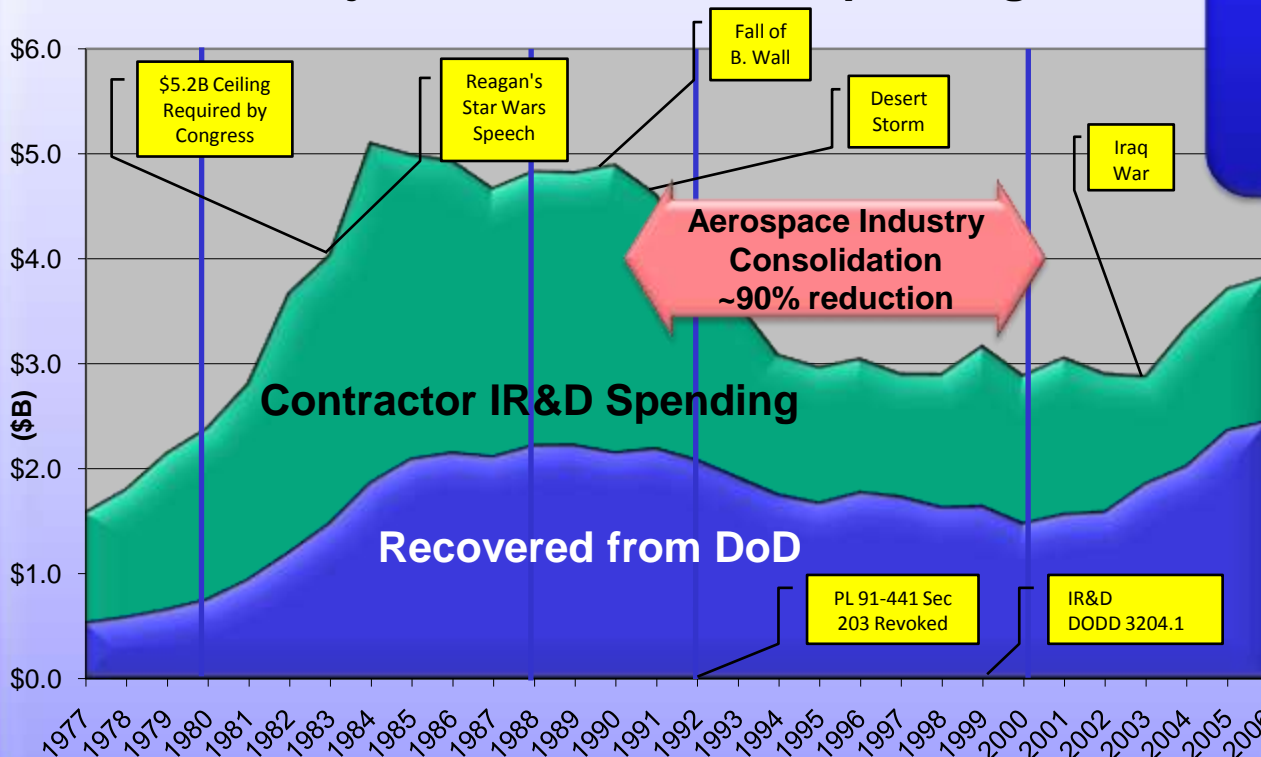
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# IR&D Defined

IR&D: Industry R&D activity not already on contract or sponsored by a grant, and generally applies to Science & Technology-level research, development, or studies. FAR 31.205-18(a)

## Major Contractor IR&D Spending



**AF Goal:**  
*Integrate/Leverage AF/Industry R&D Strategic Investments*

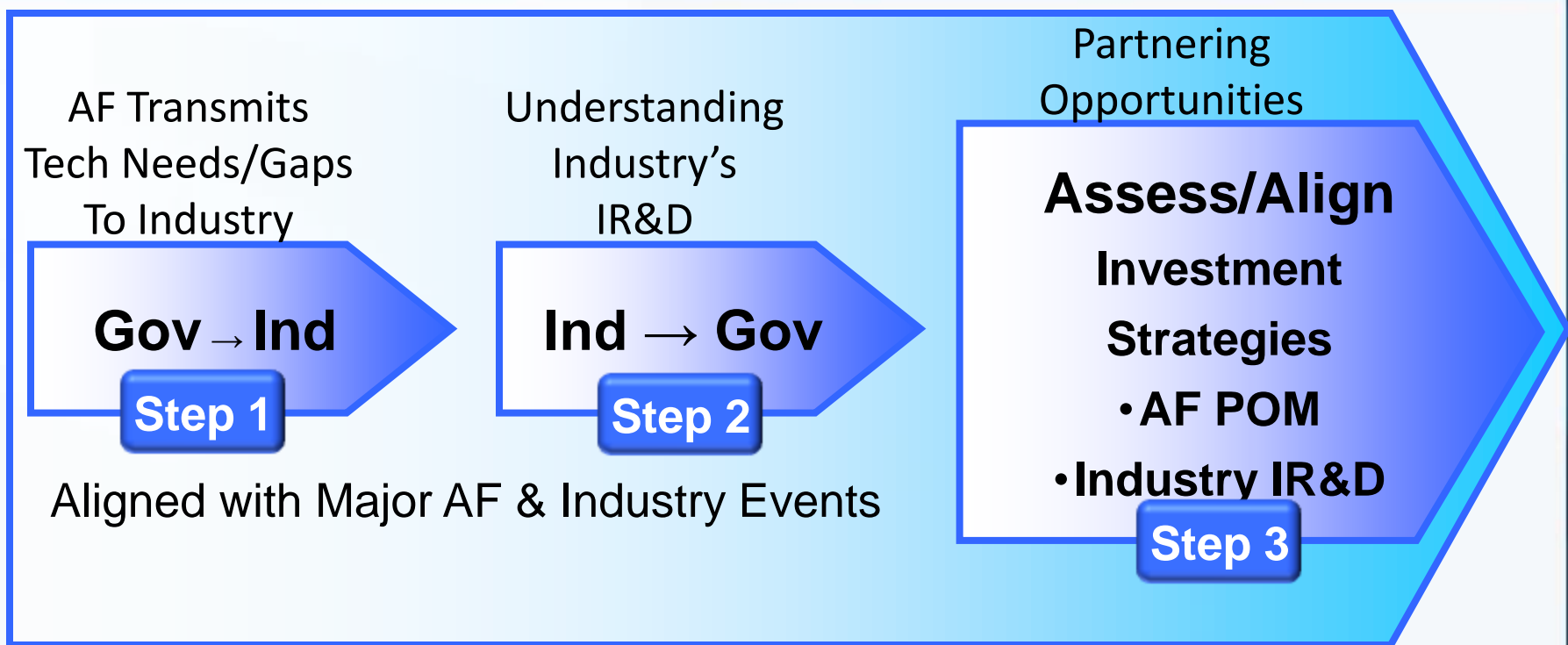
\* Major Contractor defined as Company with over \$11M in IR&D spending in the preceding fiscal year... *H.R.2100, Sec 231, Title VIII*

**National Defense Authorization Act for FY 92/93**

Source: Defense Procurement and Acquisition Policy ([http://www.acq.osd.mil/dpap/cpf/independent\\_research\\_and\\_development\\_and\\_bid\\_and\\_proposal\\_costs.html](http://www.acq.osd.mil/dpap/cpf/independent_research_and_development_and_bid_and_proposal_costs.html))



# AF/Industry IR&D Interchange Framework + Focus



**Industry IR&D ROI Focused on 3-5 yr (Prod Ctr) vs 5-15 (MAJCOMs)**



**Step 1**

**Gov → Ind**

**Step 2**

**Ind → Gov**

**Step 3**

**Assess/Align**

**SMC**



**O.K.** 14 KTR  
Apr 07

**O.K.** 9 KTR  
\$158 / \$319 M  
6 Reported  
Aug 07



**AAC**



**O.K.** 12 KTR  
Sep 07

**O.K.** 9 KTR  
\$184 M  
7 Reported  
Dec 07



**ESC**



**O.K.** 12 KTR  
Jan 08

**O.K.** 9 KTR  
\$312 / \$1051 M  
9 Reported  
May 08



**SMC**



**O.K.** 12 KTR  
Apr 08

**O.K.** 11 KTR  
\$280 / \$748  
10 Reported  
Aug 08



**ASC + ALC**



**O.K.** 14 KTR  
Jul 08

**UNDER CONSTRUCTION** Dec 08



# Summary

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- **Results of D&SWS (TD-14) will**
  - **Allow industry to invest in highest priority Air Force tech needs**
  - **Ensure Air Force developmental planners are aware of latest technologies available from industry**