

Headquarters U.S. Air Force

Integrity - Service - Excellence

Air Force Acquisition



Dr. Bill LaPlante
Assistant Secretary of the Air Force
(Acquisition)

U.S. AIR FORCE



USAF Acquisition Priorities

- Get the high priority programs right & keep them on track
- **Improve relationships & transparency with stakeholders**
- Own the technical baseline for important programs
- Build on “Better Buying Power” to improve business acumen & small business to achieve best program outcomes
- Build to the long term strategy – resiliency to peer competitors – experiment and innovate – STRATEGIC AGILITY



**Improve relationships &
transparency with stakeholders:
Bending the Cost Curve**



BTCC Activity Summary

Improve Internal Processes (Project Title | Purpose)

IT Bus. Analytics	Achieve better awareness and coordination of AF-wide IT spending
Matchmaker	Translate prior acquisition successes to future programs
FMS Efficiencies	Identify and implement new strategies to improve FMS processes
Best Practices	Reinforce best practices for reducing time to complete sole source contracts

Enhance Industry Interactions (Project Title | Purpose)

CCA – Industry Engagement	Gather and utilize industry insights during the requirements generation process
TINA Study	Identify the optimal threshold for TINA compliance
IT Vendor Mgmt.	Identify and implement new industry engagement strategies for IT acquisitions

Expand Competition (Project Title | Purpose)

PlugFest Plus	Implement a new agile acquisition strategy for open architecture systems
AF Tech Challenge	Expand use of challenge-based acquisitions for rapid technology innovation



Round 3 BTCC Summary

Improve Internal Processes (Project Title | Purpose) Status

Intellectual Property (IP) Forum	Conduct discussion with industry to identify actionable ways to improve Air Force IP policies and procedures
----------------------------------	--

Enhance Industry Interactions (Project Title | Purpose)

Weapon System Sustainment - CCA	Identify & implement actions to reduce cost escalation within the WSS portfolio with an emphasis on novel acquisition concepts for CLS
Meaningful Discussions	Improve discussions between government and industry during the competitive acquisition process to increase the quality and accuracy of proposals received from industry

Expand Competition (Project Title | Purpose)

AQ' – Cognitive Computing	Develop a set of interactive tools and policies to better promote innovation and collaboration within the AF acquisition workforce and industry and provide prompt and accurate information regarding acquisition statutes, regulations, and policies
----------------------------------	--



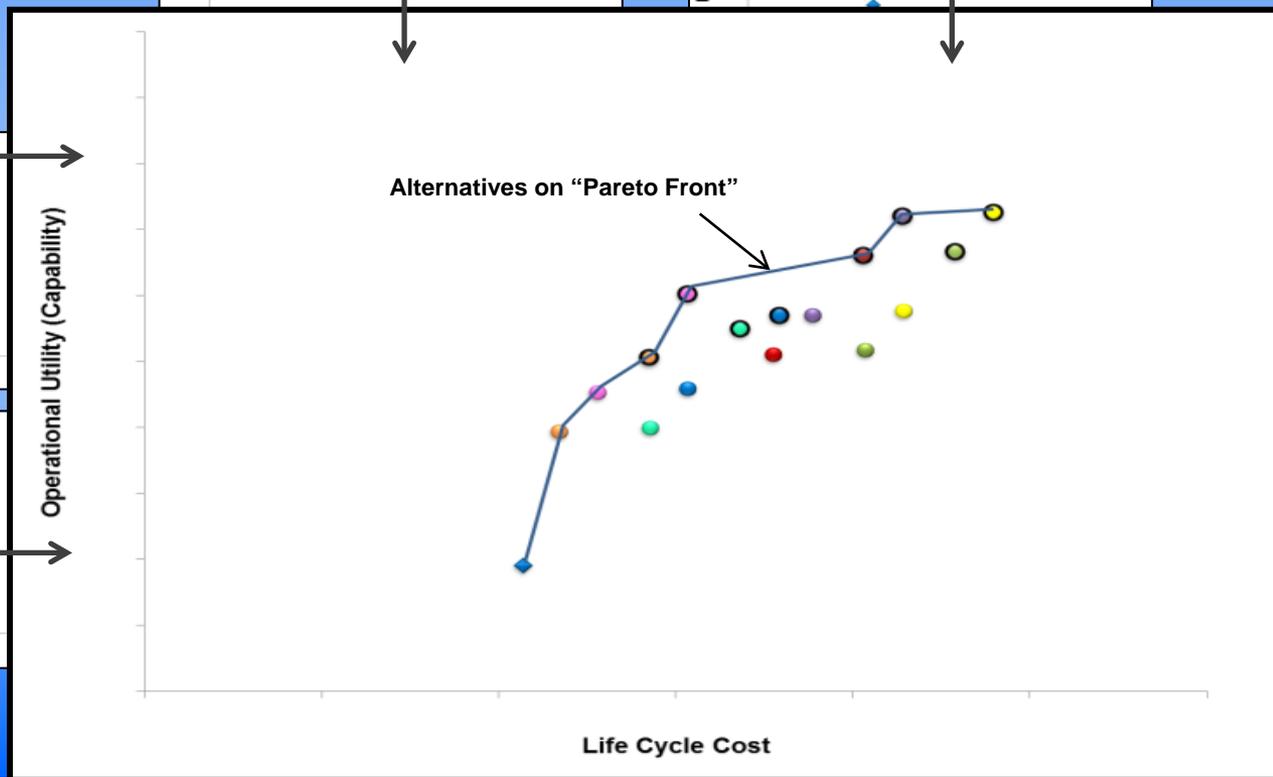
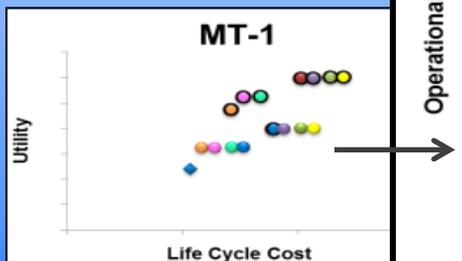
F-15 EPAWSS CCA Example

ACC defined the priority-operational value-derived from each measure under four Mission Tasks
Performing cost & effectiveness analysis at detail level
Aggregating normalized results to compare Alternatives

Mission Tasks:



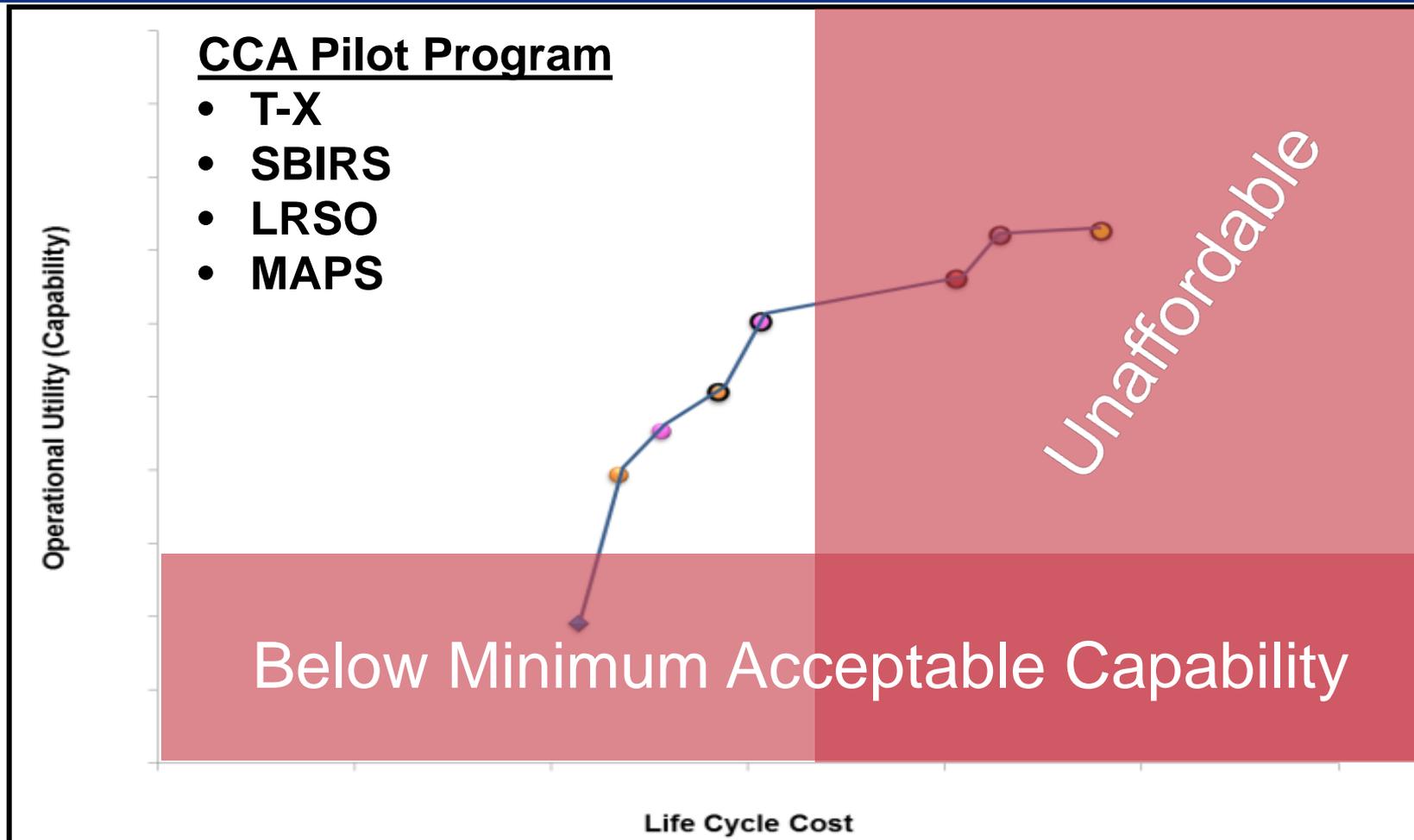
Mission Tasks:



Down-select Alternatives on the “Pareto Front”



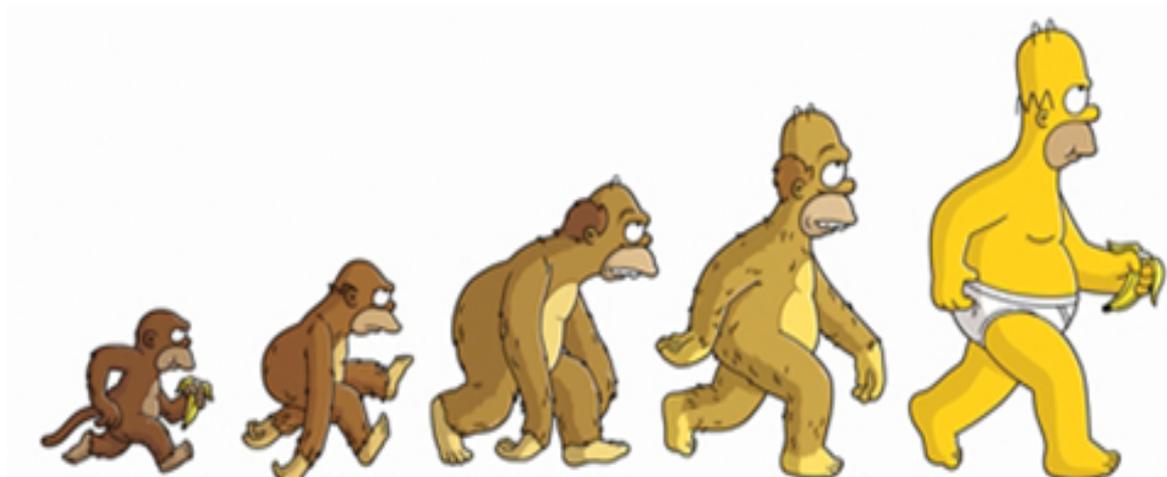
F-15 EPAWSS CCA Example



Further down-select alternatives based on affordability and minimum acceptable capability



U.S. AIR FORCE



From Plugfest “Plus” to Open System Acquisitions

Evolving the Air Force Acquisition System

Integrity - Service - Excellence



Characteristics of an Open Architecture

It is important to define what is meant by open architecture and provide some guidelines for consideration when specifying and procuring open architecture systems. Table C-1 lists the key characteristics of open systems, which are described further in the remainder of this appendix.

Table C-1. Characteristics of an Open Architecture

Characteristic	Open Systems	Remarks
Decoupled hardware and software	Hardware and software can be changed independently of each other.	Decoupled hardware and software enables the owner of the system to easily upgrade the hardware and software.
Decoupled software modules	Software components have modularly defined functionality.	Defined modular functionality allows the owner of the system to quickly introduce new capabilities.
Defined data model	Data contents and meaning defined and published in a model.	Defined data models simplify the process for adding new capabilities into the system.
Interface definition	The hallmark of an open system is the definition of the various interfaces of the system.	Open systems only work if their interfaces are defined and available. Interface should be non-proprietary and owned by the customer.
Standards	Use government or industry defined and controlled standards.	Choosing the correct set of standards is highly dependent upon the environment in which the system operates.
Life cycle development models	Can use any life cycle development model—works best with iterative and evolutionary models.	System owners benefit when using iterative and evolutionary models with open architecture systems.
Commercial off-the-shelf (COTS)	Embrace COTS and are designed to support the dynamic aspects of using COTS.	Open architecture systems are designed to leverage the tremendous power associated with tapping into the COTS computing world and bringing newer technologies to the field faster.
Data rights	Buyers of the system have the rights necessary to maintain the system.	Open architecture systems do not have data rights, which make it difficult to add new capabilities.

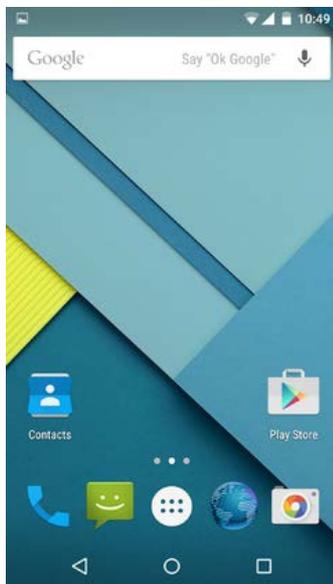
Enhancing Adaptability of U.S. Military Forces, Appendix C (<http://www.acq.osd.mil/dsb/reports/EnhancingAdaptabilityOfUSMilitaryForcesB.pdf>)



U.S. AIR FORCE

Open System Architectures

- Transitioning Air Force systems to open architectures is a cost, schedule, and capability imperative. But why aren't we there yet?
 - Agreement on standards...or even basic principles of open architectures
 - Archaic and cumbersome acquisition process
 - Archaic and cumbersome accreditation & authorization process



- Downloading an App using the Defense Acquisition System
 - 2+ years to procure
 - ~2 years for A&A
- Would you buy the app? How about the phone?



PlugFest Plus (PFP)

PlugFest Events + **OT Consortia** = **PLUGFEST PLUS**

Industry best practice for demonstrating interoperability & functionality within a defined open architecture

Existing Army acquisition framework that utilizes Other Transaction Authority to enable rapid and flexible access to broad pool of vendors

New approach that achieves ~3 week average acquisition timelines for open architecture systems





- **19 companies participated in 12 teams**
 - **14 of 19 companies identified as “non-traditional” defense contractors**
 - **Virtualized DCGS environment on Hanscom milCloud**
 - **Access to sample data, product testing, and developer resources**
 - **Six teams demonstrated products at the acquisition event**
 - **Anticipate award completion in August**
- **Open System Acquisition (OSA) follow-on effort**
 - **RFP released by AFRL to establish acquisition vehicle specific to this process for use by interested government programs**
- **Exploring external partnerships and including additional defense programs into acquisition process.**

Expanding to other Air Force Programs



Open System Acquisitions (OSA)

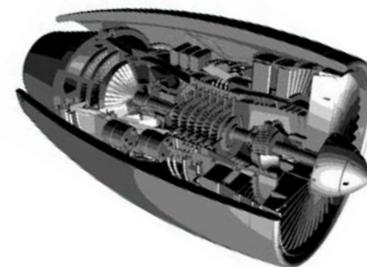
- Transitioning PFP to a formalized structure, called Open System Acquisitions
 - AFRL has released a DRAFT RFP for the first Air Force Open System Acquisition Consortium
 - View on FedBizOpps or www.plugfestplus.org
 - Agile acquisition vehicle with \$99M cap per consortium
 - Capturing demonstrated acquisition best practices in templates
 - Seeking to integrate processes to expedite A&A completion
 - Agnostic to specific architectures
 - May be used for software and hardware integration
- Heavily leveraging COTS ecosystem to recreate and expand upon successes of PFP demonstration and ongoing PlugFest community

Next Programs: Space Ground Control, AOC 10.2, ...



U.S. AIR FORCE

Air Force Turbine Prize

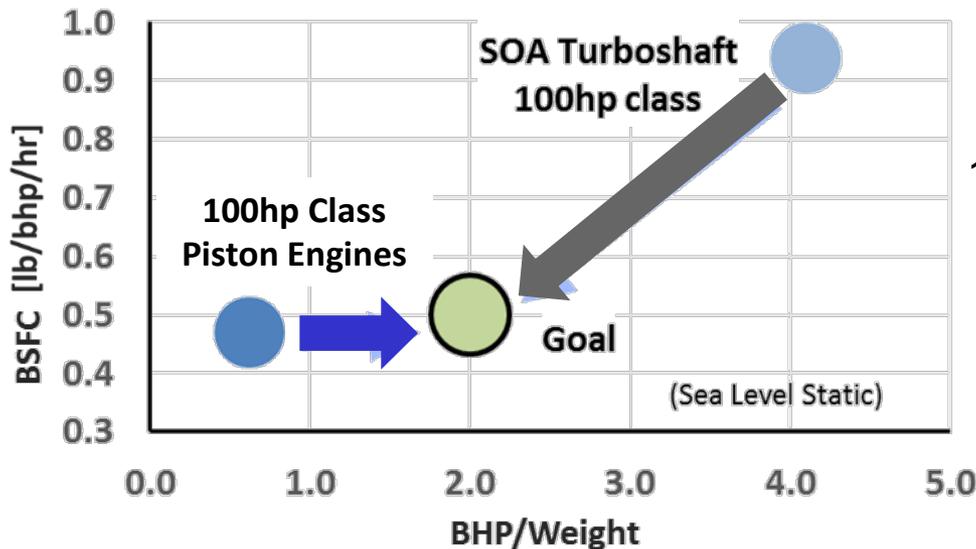




Air Force Turbine Prize

\$2M Prize for delivering a turbine engine:

- **Power:** 100 hp class (<150 hp max continuous)
- **Power-to-Weight:** ≥ 2.0 bhp/lb (operating engine except fuel tank)
- **Fuel Efficiency:** ≤ 0.50 lb/bhp/hr BSFC at max continuous power
 ≤ 0.59 lb/bhp/hr BSFC at 50% max continuous power
- **Fuel Type:** Jet-A (removes the avgas combat logistics req't)



2x increase small turbine fuel efficiency
3x less weight compared to piston engine
10x increase in life compared to piston engine

\$30M savings for current UAV ops

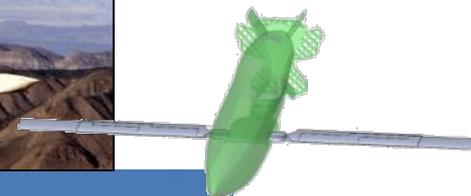
BSFC – brake-horsepower specific fuel consumption



U.S. AIR FORCE

Potential Applications

Military



Commercial

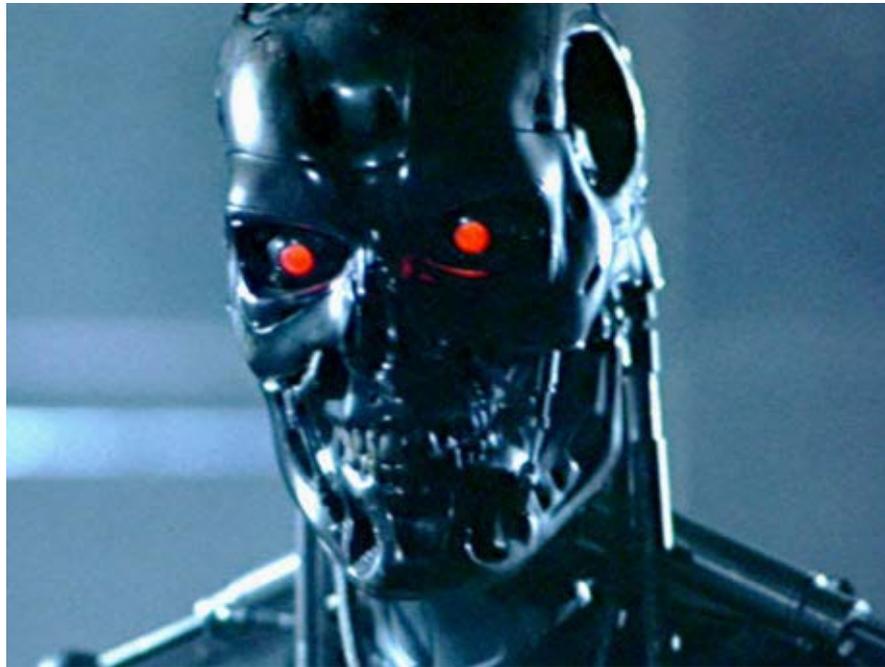


Integrity - Service - Excellence

Headquarters U.S. Air Force

Integrity - Service - Excellence

AQ-Prime (AQ') – Cognitive Computing
Building a New Generation of Acquisition Professionals

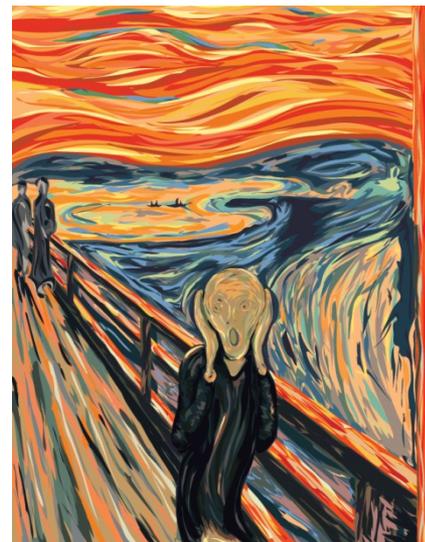




AQ' – Tools for Innovation & Collaboration

U.S. AIR FORCE

- The Defense Acquisition System is slow and cumbersome
- Acquisition regulations and policies form an intricate maze
- AQ' aims to develop modern tools to help navigate and excel within the bureaucracy
 - Start by building a resource to help navigate the FAR





U.S. AIR FORCE

AQ' – Cognitive Computing

- Modern advances in cognitive computing (e.g. artificial intelligence) ought to enable an effective means of navigating acquisition regulations and policies
- AFRL released an SBIR solicitation in January to develop one or more cognitive computing resources for this purpose
- Awards are expected at the end of July
- Make products publicly available



Integrity - Service - Excellence



Acquisition Process Data Sources

- Title 10 USC § 2377, § 2371, § 2430, § 2432, etc.
- Federal Acquisition Regulations
- DoD 5000 series
- Defense Acquisition University Training
- Local guidance



Contract Data Sources

- Federal Procurement Data System
- DTIC contract and report repository
- Requirements docs (IRSS, KMDS)
- FedBizOps
- Grants.gov



Bending the Cost Curve

- **BTCC includes a growing and evolving set of acquisition reform activities defined in collaboration with industry**
- **BTCC activities identified in 3 categories:**
 - **Improve internal AF acquisition processes**
 - **Enhance interactions with industry throughout acquisition lifecycle**
 - **Expand competition among traditional and non-traditional industry partners**





USAF Acquisition Priorities

- Get the high priority programs right & keep them on track
- **Improve relationships & transparency with stakeholders**
- Own the technical baseline for important programs
- Build on “Better Buying Power” to improve business acumen & small business to achieve best program outcomes
- Build to the long term strategy – resiliency to peer competitors – experiment and innovate – STRATEGIC AGILITY



Suggested Reading

- **America's Air Force: A Call to the Future**
(http://airman.dodlive.mil/files/2014/07/AF_30_Year_Strategy_2.pdf)
- **Enhancing Adaptability of U.S. Military Forces**
(<http://www.acq.osd.mil/dsb/reports/EnhancingAdaptabilityOfUSMilitaryForcesB.pdf>)
- **Driving in the Dark: Ten Propositions About Prediction and National Security**
(http://www.cnas.org/files/documents/publications/CNAS_Prediction_Danzig.pdf)
- **Development Planning: A Strategic Approach to Future Air Force Capabilities** (<http://www.nap.edu/catalog/18971/development-planning-a-strategic-approach-to-future-air-force-capabilities>)
- **Performance of the Defense Acquisition System 2014 Annual Report**
(<http://www.acq.osd.mil/fo/docs/Performance-of-Defense-Acquisition-System-2014.pdf>)