

Department of the Air Force

Integrity - Service - Excellence

SAF/AQR Overview and Collaboration Opportunities

NDIA Systems Engineering Division (SED)



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Deputy Assistant Secretary of the Air Force
Science, Technology, and Engineering

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Agenda

- **SAF/AQR Mission**
- **SAF/AQR Priorities**
- **SAF/AQR Organization and Divisions**
- **SAF/AQR - NDIA Collaboration Opportunities**





SAF/AQR Mission

Accelerate Air Force and Space Force technological advantage by enabling world class scientists and engineers to securely transition cutting edge S&T, employ prototyping and experimentation, and transform engineering capabilities

■ Areas of Responsibility:

- AF S&T Executive providing oversight and guidance in the execution of the AF 2030 S&T strategy and technology modernization priorities
- AF Chief Engineer providing policy and oversight to ensure technical discipline and risk management in a fast moving development pipeline
- Champions agile acquisition rooted in competition and innovation, advanced manufacturing, and dual-use technology
- Strengthens weapons systems cyber security and system security engineering for mission assurance
- Facilitates and accelerates digital engineering transformation, through tools, standards, workforce development and support
- Drives prototyping and experimentation with transition to capabilities

■ Portfolio Summary:

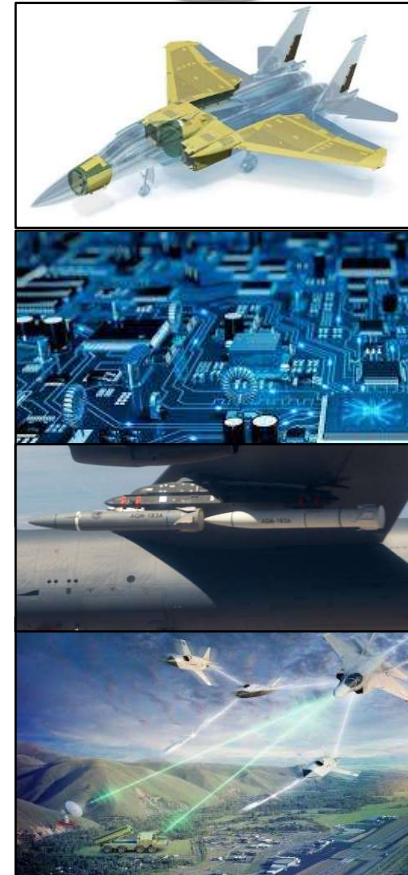
- Champions and directs \$17B+/FYDP DAF S&T, Weapon System Cyber Security, Development Planning, Prototyping, Experimentation, and Digital Engineering Transformation investment

■ Deputy Assistant Secretary: Ms. Kristen Baldwin, SES

■ Associate Deputy Assistant Secretary: Dr. Yvette Weber, SES

#accelerate with tech, tools, & talent

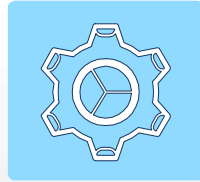
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SAF/AQR Priorities

Drive Science, Technology and Transition Outcomes to meet DAF Priorities



- Oversee and focus Vanguard Programs, identify transformational S&T investments and enablers
- Focus Development Planning priorities to bridge transition to programs

Ensure Technical Rigor & Risk Management through Digital Engineering



- Lead DAF-wide independent technical review of acquisition programs
- Advance engineering policy, guidance and standards; implement digital transformation



Strengthen Cyber Resiliency of Weapons Systems

- Extend balanced protections to acquisition and S&T communities
- Advance system security engineering practice and hardware/software assurance



Advance Science and Engineering Talent and Tools

- Address long term AF and USSF human capital needs, workforce diversity
- Transition advanced manufacturing technology
- Implement digital tools, M&S, and open architecture



SAF/AQR

Directorate of Science, Technology and Engineering

**Deputy Assistant Secretary for
Science, Technology and Engineering**
Ms. Kristen Baldwin

**Program Integration
Section**

Associate Deputy Assistant Secretary
Dr. Yvette Weber

**Chief Modeling and
Simulation Office**

**S&T Management
Division**

**Engineering & Force
Management Division**

SSE/Cyber Division

**Development Planning
Division**



AQRE Division Overview

Mission: Engineering & Force Management

- Ensure technical rigor and risk management of systems and specialty engineering activities across the DAF
- Lead S&E Workforce Management Initiatives and improve diversity
- Champion Digital Transformation and Engineering
- Advocate for DAF corrosion control and prevention initiatives as the Deputy to the AF Corrosion Control & Prevention Executive (CCPE)
- Lead AF development and implementation of standardization documents as the Departmental Standardization Office (DepSO) in support of the AF Standardization Executive
- Provide enterprise oversight and management of FFRDCs



AQRM Division Overview

Mission: Improve Air Force capabilities through development planning, prototyping, and experimentation

- Establish integrated capability development planning process to meet DAF priority needs
- Engage DAF and OSD activities to enable experimentation campaigns, prototyping, and demonstration evaluation of emerging capability
- Shepherd the development and transition of select, targeted capabilities through large system level prototyping programs
- Support and champion the development of mission engineering and architecture standards to enable DAF priority needs



SSE/Cyber Division Overview

Mission: Provide systems security engineering policy and guidance to secure, protect, and defend the Department of the Air Force engineering and acquisition enterprise

- **Secure** weapons & platforms through cyber resiliency & systems security engineering
- **Protect** air & space systems, science & technology, acquisitions & programs
- **Defend** engineering & technology dominance to assure trusted and resilient capabilities for the warfighter



AQRT Division Overview

Mission: Shape Air and Space S&T to Ensure Military Dominance

- Serve as the primary interface between the Department of the Air Force S&T enterprise, OSD, and Congress
- Drive S&T outcomes and transition through comprehension and advocacy of technology solutions to meet DAF Priorities
- Be the voice of DAF S&T in the corporate fiscal process and future force development
- Support AFWERX leading the transition of agile, affordable, and accelerated technologies by teaming innovative tech developers with DAF talent
- Cultivate domestic and international partnerships
- Develop and oversee DAF S&T management policy and fiscal guidance



SAF/AQR - NDIA SED Collaboration Opportunities

- **SAF/AQR Priority: Drive Implementation of DAF Capability Development Planning and Technology Transition**
 - **Identifying more opportunities for industry to partner with AFRL, e.g., AFWERX, Prototyping/Experimentation, JCTDs**
 - **Sharing of Lessons Learned about technology transition to both in-development systems and fielded systems**
 - **Modeling, Simulation, and Analysis driven needs**
 - **Multi-domain**
 - **Component thru campaign**
 - **Human-Machine teaming**
 - **Role of Artificial Intelligence (AI) and Machine Learning (ML) in the future fight**



SAF/AQR - NDIA SED Collaboration Opportunities

- **SAF/AQR Priority: Strengthen Cyber Resiliency of Weapon Systems potential for collaboration**
 - **Continue the fruitful collaboration between CROWS and the Systems Security Engineering Committee**
 - **Sharing of Lessons Learned about strengthening cyber resiliency of systems**



SAF/AQR - NDIA SED

Collaboration Opportunities

- **SAF/AQR Priority: Ensure Technical Rigor & Risk Management potential for collaboration**
 - **Digital Engineering and Model-Based Engineering focus:**
 - **Adaption and use of digital artifacts in supporting program and technical reviews, and the multiple required certifications of systems**
 - **Digital Transformation integration of Specialty Engineering risks and requirements management**
 - **Sharing lessons learned about assessing and managing risks to program cost and schedule, to system performance, and mishap occurrence**



SAF/AQR - NDIA SED Collaboration Opportunities

- **SAF/AQR Priority: Advance Science and Engineering Talent and Tools potential for collaboration**
 - **Sharing industry approaches related to recruiting, training, and retaining of science and engineering personnel**
 - **Exploring opportunities for teaming on the recruiting, training, and retaining of science and engineering personnel**