

## **"How to Develop and Sustain a Successful Unmanned Aircraft Systems (UAS) Program for Enhanced Science, Safety, and Savings"**

- Presentation objectives: (1) understand the context of unmanned aircraft use, (2) appreciate the characteristics and challenges of manned and unmanned aircraft, (3) become knowledgeable of the origins of the DOI strategy for UAS integration, (4) be exposed to the DOI process for obtaining unmanned aircraft support, and (5) get an overview of proven aviation management best practices.
- Aircraft are an important DOI mission support multiplier.
- Unmanned aircraft come in all sizes – handheld micro to full-scale aircraft.
- According to Congress, “aircraft” means any contrivance invented, used, or designed to navigate, or fly in, the air. 49 U.S. Code § 40102.
- DOI’s UAS strategy is founded on principles of professional operational test and evaluation, constructed to fit the Department’s missions, infrastructure, personnel, and funding, while leveraging the lessons of its longstanding manned aircraft program and DOI’s commitment to public stewardship.
- DOI’s UAS program is nationally recognized as a leader in the domestic government application of this new technology and UAS program management.
- Successful aviation application requires requirements determination, hazard and risk analysis, deliberative planning, training, and disciplined execution.
- While aviation is not inherently dangerous, it is far more unforgiving than many other endeavors. Aircraft don’t care about your bureau, position, or urgency.
- The policies and practices of successful aviation programs are written in the blood of past errors. Across aviation, >85% of mishaps involve human error.
- Unmanned aviation adds additional levels of complexity: control link, payload link, kinetic energy complacency, and privacy/civil liberties/rights concerns.
- Although many UAS are smaller than manned aircraft, they still possess kinetic energy capable of causing major damage, injury or death, if not respected.
- Privacy, civil rights, and civil liberties concerns are not unique to UAS, but are heightened among the public relative to this new technology.
- The President issued a UAS Memorandum on Feb 15 with specific privacy, civil rights, and civil liberties requirements that all Federal Departments, Agencies, and employees are responsible for complying with. Everyone is responsible.
- UAS acquired data = privacy “currency;” valuable and in need of protection.
- Successful UAS programs begin with a rigorous mission requirement process.
- Vehicle, C2, payload, data, and ancillary requirements must also be determined.
- Keys to building and sustaining program success; the 9P’s: Proper Prior Planning & Precise Production Promote Predictably Powerful Performance.
- UAS are an airborne information technology (IT) node. It is critical to the success of UAS application to have the Data-Information-Knowledge-Action loop determined and properly resourced.
- DOI’s Office of Aviation Services (OAS) is your expert resource for UAS support.
- Brad Koeckeritz, OAS National UAS Specialist – 208 433-5091, [Bradley.koeckeritz@ios.doi.gov](mailto:Bradley.koeckeritz@ios.doi.gov)
- OAS website – <https://www.doi.gov/aviation/>
- Bureau National Aviation Manager listing - [https://www.doi.gov/aviation/eab/nam\\_members](https://www.doi.gov/aviation/eab/nam_members)