



**Adaptive Airborne Enterprise (A2E)
FANTOM Core
Mission Autonomy Software Evaluation
Assessment Event**

USSOCOM SOF AT&L Program Executive Office-Fixed Wing (PEO-FW)

Problem Statement: Given DoD's pacing challenges, SOCOM currently lacks the concepts and technologies to leverage its access and placement and provide long-range ISR & effects at scale to execute Special Operations peculiar (SO-p) missions.

Operational Use/Conditions: The PEO-FW A2E program requests selected industry participants provide evaluation and feedback of a government-owned mission autonomy software solution. This is a software stack that would be integrated with Group 1-3 UAS platforms to support ISR missions. We desire vendors to evaluate the Mission Autonomy Software Developer Kit (SDK), Interface Control Documents (ICD), architecture descriptions, user guides and Cameo models for architecture completeness. In a subsequent Assessment Event, we will select third party developers to integrate desired capabilities utilizing the SDK environment.

We need a mix of vendors to evaluate the SDK who are:

- Platform vendors that want to host collaborative autonomy – want to demonstrate mature platforms and mature interfaces with an ICD mindset that support a clearly defined Verification and Validation (V&V) test method
- Payload/sensor/ATR vendors that want to integrate with autonomy – want to demonstrate mature payloads and interfaces that are loosely coupled with autonomy
- Autonomy behavior vendors – to demonstrate mature product, clearly defined development, modification and V&V test methods
- Mission planning, mission control, mission simulation and modeling vendors– demonstrate mature product, clearly defined development, modification and V&V test methods





Responses should reference ALL queries identified below. Please be as descriptive as possible in your responses.

1. What is your product?
2. How does your product address collaborative autonomy?
3. Has your product flown on any (operational) platform (manned, unmanned, Group 1-5 UAS)?
4. Has your product been used in different systems or architectures?
5. What external hardware and software have you interfaced your system with?
6. Describe your approach to simulation in support of Software and Hardware in The Loop test?
7. Explain your approach to control of vehicle flight.
8. How does your product support dynamic mission assignment with optional human in or on the loop?
9. Describe algorithms that are critical to your product (path planners, sensing, task management, controllers, etc.).
10. Have you worked with the following technologies or related? DARPA CODE, Skyborg ACS, A-GRA
11. What standards, tools, processes do you assume are needed to integrate your products? Can you provide these to other team members?
12. How do you V&V your product?
13. How would you V&V a service independently?
14. How would you V&V an autonomous system consisting of services provided by multiple organizations?
15. Where do you see Government/UARC vs industry roles?

