

WHO

**SYSCOM:** NAVAIR

**Sponsoring Program:** PMA-251 ALRE

**Transition Target:** Aviation Data Management And Control System (ADMACS)

**TPOC:** (732) 323-7884

**Other Transition Opportunities:** Marine Aviation Data Management System (MADMS)

**Notes:** F/A-18 aircraft are launched from an aircraft carrier to support naval aviation missions. ALPSMAS enhances the air plan writing process by quickly determining times for aircraft launch and recovery, and weapon loads to support the day's air missions. Probus has extensive experience developing decision support systems in supporting aircraft carrier operations.



<https://media.defense.gov/2018/Nov/02/2002385752/-1/-1/0/181102-N-XA496-0332.jpg>

WHAT

**Operational Need and Improvement:** Flight operations planning on aircraft carriers is central to the success and efficiency of the carrier air wing (CVW) in executing missions. The process of creating air plans can be challenging and time-consuming. Information systems are in place for documenting and managing Air Plans but require expert input from Strike Ops planners. Additionally, there is a wide range of information sources that determine events to include within the Air Plan and it is difficult to gather information on readiness. Finally, these plans are likely to change on the fly as well, due to unforeseen changes to missions and resources.

**Specifications Required:** The technology should reduce personnel workload when writing Air Plans, increase planning efficiency, and improve adaptability through the use of a decision support application. The project solution should automatically learn to generate and propose Air Plans based on mission requirements and strike group resource readiness.

**Technology Developed:** A Multiagent system (MAS) composed of intelligent agents that can learn air plan generation rules from sample Air plans and Air Tasking Orders (ATO), and autonomously generate draft air plans based on multiple Air Plan requirements sources, including ATOs, carrier group, squadrons, and nonorganic agencies.

**Warfighter Value:** Reduced planning time, quicker plan changes to support evolving battlespace conditions, faster Observe, Orient, Decide, Act (OODA) loop.

WHEN

**Contract Number:** N68335-23-C-0017

**Ending on:** Feb 12, 2025

Milestone	Risk Level	Measure of Success	Ending TRL	Date
ALPSMAS Intelligent Agent Design	Medium	Documented intelligent agents design	3	1st QTR FY24
ALPSMAS Verification	Medium	Completed agent training and execution of test scenarios	4	3rd QTR FY24
ALPSMAS Integration Demo	Medium	Demonstration of ALPSMAS integration to a naval system	5	3rd QTR FY25

HOW

**Projected Business Model:** The initial plan is to partner with prime vendors and system integrators for the integration of the automated scheduler technology in planning and command and control systems. Technology licensing will be the initial basis for partnering. We also plan to mature the technology so that it would be easily applicable to commercial clients needing advanced Workload Automation (WLA) solutions.

**Company Objectives:** Attain prominent position in the WLA solution market through the development of commercial asset scheduling products based on the ALPSMAS intelligent agent technology that can integrate into workload scheduling & automation platforms from major vendors in the market space, such as IBM, Oracle, Broadcom, and ASG Technologies.

**Potential Commercial Applications:** Transportation logistics applications, distributed workforce crew scheduling, and commercial aircraft, ship, or vehicle fleet management.