



Balancing Rapid Acquisition of Unmanned Aerial Vehicles with Support Considerations

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The role of unmanned aerial vehicles (UAVs) in intelligence, surveillance, reconnaissance, and time-critical targeting in Operations Enduring Freedom and Iraqi Freedom confirmed their utility in U.S. combat operations. However, because of an acquisition strategy intended to field UAVs as quickly as possible, the Air Force did not go through the usual processes of determining system requirements before design and production. These processes typically reveal important information about how to support aircraft systems. Without this information, the requirements for long-term, end-to-end support of UAVs are unclear.

RAND Project AIR FORCE (PAF) analyzed support options for current U.S. Air Force UAV systems, including the Global Hawk, Predator, Pointer, Raven, Force Protection Airfield Surveillance System (FPASS), and Battlefield Air Targeting Camera Autonomous Micro-Air Vehicle (BATCAM), as well as the Unmanned Combat Aerial Vehicle (UCAV). PAF made the following recommendations to help the Air Force improve its support of current and future systems.

Use analytic tools to examine acquisition and logistics trade-offs. There is a trade-off between the need to field aircraft quickly and the need to determine logistics requirements. Analytical tools, such as the RAND-developed Logistics Implications Capabilities Assessment Model (LICAM), could help logisticians examine the trade-offs. For example, such a tool could simulate changes in fielding, operations, and support and evaluate how they affect a key operational metric, the ability of the UAV to cover the target area.

Gather key data, even during rapid development. Many of the Air Force UAVs were developed as prototypes to demonstrate new capabilities. Reliability and maintainability data, which are typically used to set appropriate levels of support, have not been gathered. In future systems, acquiring data for a few select components could enhance supportability and reduce costs to the Air Force.

Structure a process for sharing UAV experience. The dispersion of UAV capabilities and responsibilities throughout the Air Force and DoD makes it difficult for lessons learned to be shared across locations and military organizations. Recent UAV conferences are steps in the right direction, toward a more-structured approach to sharing experience.

Provide funding for remediation of problems identified during rapid acquisition. Even when logistics support issues have been identified early during a rapid acquisition, funding has not always been available to implement corrections. Future budgets should include funding for resolving issues that arise from testing and evaluation.

Limit the number of configurations within a fleet. UAVs have used spiral development, in which prototypes are fielded at the same time that lessons learned and technology advances are feeding a continuous cycle of redesign. This approach can create a fleet with multiple configurations, complicating maintenance and support. Some logistical issues can be alleviated if the Air Force puts a plan in place before production begins to standardize the airframe or at least limit the number of configurations within a fleet.

These recommendations should be applied to current and future UAV systems. In this way, the Air Force can continue to field needed systems quickly while planning for, and providing, end-to-end support. ■

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