NASA Advisory Council Recommendation

Unmanned Aerial System Traffic Management
2014-01-01 (AC-01)

Recommendation:
The Council recommends that in order to safely enable widespread civilian Unmanned Aerial System (UAS) operations at lower altitudes, advanced research and prototyping of an Air Traffic Management (ATM)-like system is needed. NASA is currently exploring the functional design, concept and technology development for such a prototype UAS Traffic Management (UTM) system. The Federal Aviation Administration (FAA) and a number of partners have expressed an interest in working with NASA in exploring the research, development, prototyping, testing and possible implementation of such a system. The Council recommends that the NASA Administrator and all NASA organizations involved in the development and sustainment of agreements and partnerships be proactively engaged in reducing implementation barriers and provide any necessary tools to enable the innovative partnerships that will be required for the realization of UTM. NASA should make this a high priority for the Agency given the urgency warranted by such a system.

Major Reasons for Proposing the Recommendation:
Many civilian applications of UAS have been imagined, ranging from operations in remote areas to congested urban areas, including goods delivery, infrastructure surveillance, agricultural support, and medical services delivery. Class G airspace (up to 2000 feet) is currently uncontrolled (not under the current Air Traffic Control system) and key infrastructure to enable and safely manage widespread use of low-altitude airspace and UAS operations therein does not exist. NASA is exploring concepts and technology development for a prototype UTM system, in close coordination with the FAA and National Oceanic and Atmospheric Administration (NOAA) that will support safe and efficient UAS operations for the delivery of goods and services. Public-private-academia relationships are expected (and necessary) to help define and develop such a UTM system.

Consequences of No Action on the Proposed Recommendation:
The Council is concerned that without sufficient Agency support and focus from relevant NASA organizations (e.g., procurement, General Counsel, research centers, etc.), the agility and flexibility required for NASA to develop the complex UTM system will be compromised, leading to insufficient progress and ultimately impacting results.

NASA Response:
NASA concurs with the Council on the criticality of partnerships to the future successful implementation of a system such as the UTM. NASA agrees that this area has enormous potential to increase the utility and safety of unmanned aerial systems if we can address the significant uncertainties surrounding their deployment and certification. NASA's Aeronautics Research Mission Directorate will continue to proactively engage as appropriate with other relevant NASA organizations (such as the Office of General Counsel, Office of Procurement, and the NASA research centers) in the development of innovative partnership agreements which are crucial to this effort. NASA management across the Agency remains committed to fostering partnerships as can be evidenced by the emphasis on expanding partnerships contained within the *2014 NASA Strategic Plan.*