

**Unmanned Aircraft Systems (UAS) Integration
in the National Airspace System (NAS) Interagency Roadmap
2011-02-01 (AC-01)**

Recommendation:

The Council recommends that NASA, as a member agency of the Joint Planning and Development Office (JPDO), ensure that the research, development and demonstration (RD&D) interagency roadmap activity includes clear documentation on ongoing and future activities currently funded across the Government departments and agencies relating to UAS RD&D. In addition to supporting the deliverable to the Office of Management and Budget (OMB), the Council also recommends that NASA include data about international research programs on UASs in its own planning to augment its own research considerations, even if not submitted in the report to OMB.

Major Reasons for the Recommendation:

Awareness of UAS integration and research efforts being pursued across the Federal Government and internationally will allow NASA, in conjunction with other Federal agencies, to make better informed investment decisions about UAS research and technology development efforts. Such an interagency effort will also provide stakeholders and users an understanding of duplications and gaps across Government investment. NASA should also take into consideration global technology development efforts to inform its planning and to eventually support full global UAS interoperability.

Consequences of No Action on the Recommendation:

Failure to do so could lead to inefficient use of U.S. Government resources as NASA invests in technologies and operational solutions that are redundant in light of other Federal Government efforts or that are incompatible with global harmonization of UAS airspace access.

NASA Response:

NASA concurs with this recommendation. NASA has been and continues to be involved in the JPDO interagency roadmap activity at all levels of leadership and execution. NASA's Associate Administrator for the Aeronautics Research Mission Directorate, Dr. Jaiwon Shin, is a member of the Executive Decision Making Group providing strategic leadership and guidance. As members of the Executive Planning Committee, at the more tactical leadership level, the Program Director for NASA's Airspace Systems Program, Dr. John Cavolowsky, and the Program Director for NASA's Integrated Systems Research Program, Dr. Ed Waggoner, are providing leadership to define the overall roadmap effort and guide the detailed planning and execution of the effort. In addition, NASA researchers are taking an active role in the effort. NASA subject matter experts are involved in each of the four technical track teams that will provide the detailed information that will go into the roadmap. NASA is also providing co-leads for the Human Factors and Communications Technical Tracks.

Enclosure

This involvement allows NASA to stay abreast of ongoing efforts across the Federal Government, as well as providing an excellent forum to communicate NASA's ongoing activities and future plans. In addition, the output from the roadmap activity will be utilized to identify leveraging opportunities and/or gaps that will aid in planning future NASA research.

NASA is also actively engaging in dialogue with various international organizations to identify appropriate UAS collaboration opportunities. Technical interchanges have been held via WebEx with the French Aerospace Lab, the National Aerospace Laboratory in the Netherlands, and the German Aerospace Center. Additionally, meetings with the Korea Aerospace Research Institute and the Electronic Navigation Research Institute in Japan have been held to define topics for potential collaboration that could possibly include UAS-related topics. NASA agrees that these international dialogues are necessary to ensure full global UAS interoperability.