

GAO Highlights

Highlights of [GAO-15-254T](#), a testimony before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

UASs are aircraft that do not carry a pilot aboard, but instead operate on pre-programmed routes or are manually controlled by following commands from pilot-operated ground control stations. The FAA Modernization and Reform Act of 2012 put greater emphasis on the need to integrate UASs into the national airspace by requiring that FAA establish requirements governing them. FAA has developed a three-phased approach in its 5-year *Roadmap* to facilitate incremental steps toward seamless integration. However, in the absence of regulations, unauthorized UAS operations have, in some instances, compromised safety.

This testimony discusses 1) progress toward meeting UAS requirements from the 2012 Act, 2) key efforts underway on research and development, and 3) how other countries have progressed in developing UAS use for commercial purposes.

This testimony is based on GAO's prior work and an ongoing study examining issues related to UAS integration into the national airspace system for civil and public UAS operations.

View [GAO-15-254T](#). For more information, contact Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov.

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UNMANNED AERIAL SYSTEMS

Efforts Made toward Integration into the National Airspace Continue, but Many Actions Still Required

What GAO Found

The Federal Aviation Administration (FAA) has made progress toward implementing the requirements defined in the FAA Modernization and Reform Act of 2012 (the 2012 Act). As of December 2014, FAA had completed 9 of the 17 requirements in the 2012 Act. However, key requirements, such as the final rule for small unmanned aerial systems (UAS) operations, remain incomplete. FAA officials have indicated that they are hoping to issue a Notice of Proposed Rulemaking soon, with a timeline for issuing the final rule in late 2016 or early 2017. FAA has established the test sites as required in the Act, sites that will provide data on safety and operations to support UAS integration. However, some test site operators are uncertain about what research should be done at the site, and believe incentives are needed for industry to use the test sites. As of December 4, 2014, FAA granted seven commercial exemptions to the filmmaking industry allowing small UAS operations in the airspace. However, over 140 applications for exemptions were waiting to be reviewed for other commercial operations such as electric power line monitoring and precision agriculture.

Previously, GAO reported that several federal agencies and private sector stakeholders have research and development efforts under way focusing on technologies to allow safe and routine UAS operations. During GAO's ongoing work, FAA has cited many accomplishments in research and development in the past fiscal year in areas such as detect and avoid, and command and control. Other federal agencies also have extensive research and development efforts supporting safe UAS integration, such as a National Aeronautics and Space Administration (NASA) project to provide research that will reduce technical barriers associated with UAS integration. Academic and private sector companies have researched multiple areas related to UAS integration.

GAO's ongoing work found that other countries have progressed with UAS integration and allow limited commercial use. A 2014 MITRE study found that Japan, Australia, the United Kingdom, and Canada have progressed further than the United States with regulations that support commercial UAS operations. For example, as of December 2014, Australia had issued 180 UAS operating certificates to businesses in industries including aerial surveying and photography. In addition, Canada recently issued new regulations exempting commercial operations of small UASs weighing 25 kilograms (55 lbs.) or less from receiving special approval.

UAS Conducting Power Line Inspections and Precision Agriculture



Source: FAA. | GAO-15-254T