

UNMANNED AIRCRAFT SYSTEMS

Unmanned Aircraft Systems (UASs) come in a variety of shapes and sizes, and serve many purposes. Some have wingspans as large as a Boeing 737 and some are smaller than a radio-controlled model airplane. UAS have changed from remotely piloted vehicles with limited capabilities to semi and fully autonomous vehicles with expanded potential commercial applications. In the United States alone, over 50 companies, universities, and government organizations are developing and producing some 155 unmanned aircraft designs. Market Research Media projects an annual growth of 12 percent for UAS military market. The Teal Group forecasts over \$94 billion in total UAS spending over the next ten years.

To address the increasing civil market and the desire by civilian operators to fly UASs, the FAA is developing new policies, procedures, and approval processes. The FAA is working closely with stakeholders in the UAS community to define operational and certification requirements.

It is critical to develop and validate appropriate operational procedures, regulatory standards and policies for routine UAS access to the NAS. To facilitate this, the FAA created the Unmanned Aircraft Program Office (UAPO). The FAA has asked RTCA – a group that frequently advises the agency on technical issues – to work with the industry and develop UAS standards. The FAA chartered an Aviation Rulemaking Committee (ARC) to examine these operational and safety issues and make recommendations on how to proceed with regulating small UASs. The FAA is in the process of proposing a regulation based on the recommendations received from the ARC.

Once enabled, commercial UAS markets will develop. There are many potential ways for a company to generate revenue from UAS applications, whether from new markets or more efficient applications in established markets. Based upon the expected regulatory environment, FAA predicts roughly 10,000 active commercial UASs in five years.

With the safe integration into the airspace, UAS has the potential to be a significant component in commercial aviation.