

Unmanned Aircraft Systems: Commercial Outlook

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Published: 06/15/2021

Brief:

In this edition of mba Aviation's Insight Series, Bailey Cortright, Unmanned Aircraft Systems Intern, assesses the current state of the commercial UAS industry and provides insight on the outlook of the industry.

Key Concepts:

- sUAS Growth
- Commercial Applications of UAS
- Technical Considerations of UAS
- Regulatory Integration of UAS

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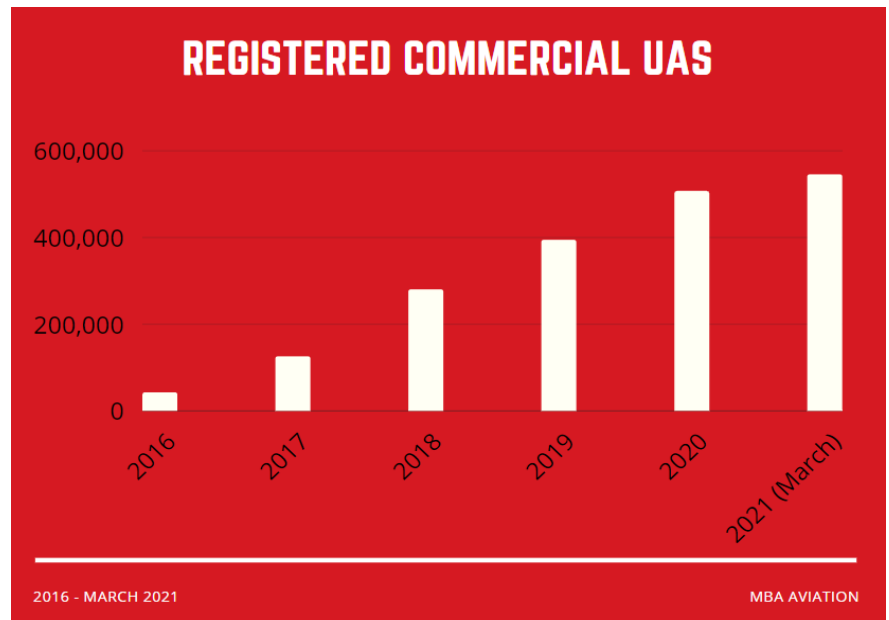
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Unmanned Aircraft Systems – Commercial Outlook

Since the introduction of FAA Part 107 in 2016, small, unmanned aircraft system (sUAS) use has grown at a blazingly fast pace. At the end of 2016 there were 42,000 registered commercial sUAS; roughly 4 years later that number has reached 545,000. That is nearly a 1,200% increase! Furthermore, these numbers only account for sUAS under Part 107. There is still a significant quantity of commercial UAS that are flown under a Section 333 exemption. The FAA estimates that the number of commercial UAS will double by 2024, which would put the total at roughly 1.1 million aircraft.

No other industry is growing at this pace, so why are sUAS the exception? There are two main reasons for this explosive growth. The first is the broadening use and success of sUAS in various applications with new uses for sUAS seeming to come about daily. Additionally, they continue to prove their worth and solidify their use in construction, infrastructure inspection, agriculture, and public safety applications.

The second likely reason for accelerated growth is the relaxation of UAS regulations, which makes this technology more accessible. One example of this relaxation is that as of April 2021, the FAA has removed the need for operators to obtain a waiver to fly at night. Pilots will be able to take advantage of this new rule provided they have completed their recurrent training prescribed by the FAA. This allows for more hours in the day that sUAS can be flown and opens the door to previously unavailable applications.



Commercial UAS Core Competencies

Construction

- Mapping the Site
- Measuring Structures
- Safety Inspections
- Progress Updates
- Worker Monitoring
- Logistics Planning

Agriculture

- Crop Health Analysis
- Spot Treatment of Herbicides
- Yield Estimation
- Large Scale Soil Analysis
- Animal Management
- Plant Pollination

Infrastructure Inspection

- Measure Wear and Tear
- Eliminate the Need for a Helicopter
- Access Hard to Reach Areas
- Enter Areas too Dangerous for Humans