Accommodating new airspace users

Teri Bristol, Chief Operating Officer of the Federal Aviation Administration’s Air Traffic Organization, reports on the FAA’s plans to deal with unmanned aircraft systems and commercial space travel.

The development of Unmanned Aircraft Systems (UAS) and private space transportation are bringing an excitement to the US aerospace industry not seen since the dawning of the jet age and the Apollo missions to the moon.

I would like to discuss the FAA’s efforts to safely integrate UAS and commercial spacecraft into the US airspace system. We are committed to enabling these great innovations, while continuing to provide the same high level of safe and efficient air navigation service to traditional airspace users.

The UAS strategy

The FAA expects there to be as many as seven million unmanned aircraft sold in the United States by 2020. By early summer 2016, we plan to finalize a rule that will allow routine, non-hobby commercial operations of small unmanned aircraft.

In the meantime, we have been authorizing non-hobby operations on a case-by-case basis. We have approved more than 5,000 exemptions to date for purposes including movie and professional football practice filming; inspections of pipelines, power lines, bridges and flare stacks; and monitoring crops as part of precision agriculture.

In addition, we have developed partnerships with three companies – CNN, PrecisionHawk, and BNSF Railway – more than 5,000 UAS exemptions have been approved to date for purposes including movie and professional football practice filming; inspections of pipelines, power lines, bridges and flare stacks; and monitoring crops as part of precision agriculture.

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to explore further UAS activity beyond the type of operations that will be covered under the pending small UAS rule.

PrecisionHawk, for example, will explore how UAS flights outside the pilot’s direct vision might be used for crop monitoring in precision agriculture operations. Also, we are working with CACI International Inc. to assess the feasibility of a technology to detect rogue unmanned aircraft around airports.

In the FAA’s Air Traffic Organization (ATO), I have appointed a Senior Executive to oversee our UAS airspace integration efforts, and we are developing a UAS strategy to guide these efforts and better align our work with other lines of business in the agency.

In December 2015, we developed a streamlined online registration platform for UAS users – the first of its kind in the world. Registration enables us to know who the operators are and instil a culture of safety within this new community. We now have more than 430,000 operators registered.

Space race

While there has been a lot of attention paid to unmanned aircraft systems, we are also paying close attention to the commercial space industry. The progress has been simply breathtaking.

In April 2016, we saw Space X make history by landing its Falcon 9 rocket on a drone ship in the Atlantic Ocean. This marks a big step toward achieving reusability of these rockets.

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Airspace integration

In addition, we are prototyping a new technology called the Space Data Integrator (SDI).

With this tool, we will be able to safely reduce the amount of airspace we block for commercial space operations and more efficiently release the blocked airspace so it is available for other users.

SDI will enable us to adapt to contingencies too. For instance, if we know that a reentry is coming in off course, we can block off new airspace and release the old airspace.

This summer, the FAA plans to conduct a demonstration of SDI when Space X conducts one of its reentry missions. The demo results will help us determine how much airspace we have to block off in advance to ensure a safe operation.

While it is still early yet, we are looking at how to incorporate the commercial space industry into the FAA’s Collaborative Decision Making (CDM) process – a practice whereby we communicate several times a day with aviation stakeholders and take their interests into account as we manage the flow of daily air traffic. This will be an important step in the eventual airspace integration process.

I look forward to seeing our progress in these areas, and sharing our work with our partners in CANSO.