Autel Robotics USA, LLC Meeting with OIRA: Small UAS Rulemaking
June 10, 2016

Autel Robotics USA, LLC (Autel Robotics) thanks OIRA for this opportunity to meet and discuss the FAA's proposed Part 107 rulemaking on Operation and Certification of Small Unmanned Aircraft Systems (UAS), which will establish a framework for the integration and operation of UAS in the national airspace system (NAS). These rules will have a significant impact on UAS manufacturers like Autel.

Autel Robotics is headquartered in Bothell, Washington, and is the North American sales and service subsidiary of Autel Intelligent Technology Corp. in Shenzhen, China. Autel Robotics has been a leader in automotive diagnostics hardware and software for over a decade and began developing small UAS platforms in early 2014. Autel Robotics currently has a line of small camera-carrying consumer quadcopters (the X-Star series), and is currently developing solutions to extend battery life utilizing vertical-takeoff fixed-wing products (the Kestrel series), that automatically transition to forward flight after taking off.

The benefits of commercial UAS use are substantial and the technology has moved forward rapidly. The UAS Autel Robotics manufactures are small and battery-powered, create no harmful emissions, and are capable of performing tasks that only a few years ago could only be achieved using full-sized helicopters or fixed-wing aircraft. In commercial industries ranging from precision agriculture to industrial infrastructure inspections, UAS are becoming powerful commercial tools that provide enormous societal benefits in terms of safety and efficiency.

Autel Robotics largely supports the proposed small UAS rule and is eagerly awaiting publication of a Final Rule. However, before the rule is finalized, based on its experience as a small UAS manufacturer, there are a few key changes that Autel Robotics would suggest to provide operators with more flexibility and incentivize the development of new UAS technology that will enhance overall aviation safety. The two main areas Autel Robotics will focus on during this meeting are beyond visual line of sight operations (BVLOS) and the one operator per UAS requirement in the proposed Part 107.

Beyond Visual Line of Sight (BVLOS) Operations

Proposed rule § 107.31 would prohibit all UAS operations beyond the visual line of sight (BVLOS) of the operator or visual observer. As a manufacturer, Autel Robotics recognizes the need for further development and advancement of sense-and-avoid technology before widespread BVLOS operations will be permitted. However a complete bar on all such operations, regardless of the UAS' design and technological capabilities, will eliminate many beneficial uses of UAS and discourage new technological developments.

The proposed rule should be revised to include a process for approving some BVLOS operations when an operator presents a sufficient safety case for the operation. Alternatively, the proposed rule could allow FPV capabilities to satisfy the "see-and-avoid" requirement in situations where it can be done safely. Technology that could support safe BVLOS operations is rapidly advancing. For example, Autel Robotics is currently developing advanced long-range video transmission technology that will provide operators with first-person-view (FPV) capability at much greater distances. However, without the ability to operate UAS BVLOS or conduct extended visual line of sight operations, technological advances in long range video transmission technology, and other technology that would enable safe UAS operation at greater distances, have little practical use for end-users. To encourage the continued development of vital technology, the proposed rule should include a risk-based permitting process that would allow some BVLOS operations or extended visual line of sight operations in circumstances where the operator demonstrates appropriate risk mitigation (i.e., that the operation can be conducted safely). The process should involve an evaluation of the technological capabilities and safety features of the UAS, the unique aspects of the mission, and, if necessary, the training, experience and qualifications of the UAS operator. This process would spur technological developments and advancements, while also ensuring the safety of BVLOS and/or extended visual line of sight UAS operations.

One Operator Per UAS Requirement

Proposed rule § 107.35 would limit an operator or visual observer to operating no more than one UAS at the same time. While this requirement makes sense in some use cases, it does not make sense for use cases involving highly automated computer controlled flight. The one operator per UAS requirement is an unnecessary limitation on innovation that would significantly limit the usefulness of UAS in many settings, and frustrate the development and economic viability of many innovative commercial UAS applications. Using multiple UAS in a single operation allows for more efficient completion of complex tasks, and with appropriate risk mitigation technologies, the operation of multiple small UAS could be just as safe as the operation of one UAS. The proposed rule should include a method for operators to make a safety case for how a single operator could safely operate more than one UAS at a time. This risk-based approach strikes a better balance between ensuring safety and encouraging the development and deployment of technology that will ultimately make UAS operations much safer and more efficient.

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Autel Robotics appreciates the opportunity to discuss these important issues and looks forward to publication of a Final Rule.

ATTENDEES

Hogan Lovells US LLP

Hogan Lovells is a premier global UAS legal practice and assists Autel Robotics USA.

Autel Robotics USA, LLC

Autel Robotics produces innovative consumer quadcopters, the X-Star series, that are flexible enough for professional problems. The X-Star's modular payload system is ready to tackle a wide variety of data-intensive industries with each new camera unit and sensor we invent. We're also developing larger commercial unmanned vehicles, such as the Kestrel VTOL quadcopter/fixed wing transitioning UAS, and by the end of 2017 Autel Robotics will have the most complete array of solutions and mission profiles in the civilian sector. Organizationally, Autel Robotics is uniquely positioned as a true partnership between its U.S. office in Seattle, Washington and its parent company's offices in China. By leveraging the distinct talents and strengths of each team, Autel Robotics' goal is to bring safety, performance and value to the emerging UAS markets around the globe.