

International Collaboration and the Future of Unmanned Systems

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Good morning everyone. I am pleased to be with you today at DRONE ENABLE. ICAO has led the way in ensuring the safety of the global airspace for over 70 years. It's good to see so many people from across the world gathered here in Montreal to keep this culture of safety strong as unmanned aircraft systems operations increase and become more complex.

My organization, the Association for Unmanned Vehicle Systems International, was proud to partner with ICAO at our recent XPONENTIAL 2017 show, where ICAO announced its Request for Information for UAS traffic management systems, or UTM. In the ensuing months, ICAO has gathered the best and brightest ideas from governments and industry alike about how best to implement a global UTM system. These ideas have been extremely helpful in the global UTM conversation, and this week's conference will help further this discussion and move us closer to a truly international framework.

As the president and CEO of the largest association for the global unmanned systems and robotics industry, I have witnessed firsthand the massive growth of the UAS industry and the impressive technological advancements of the past few years. Thousands of businesses – small and large, around the world – are embracing this technology and integrating UAS into their operations. Today, more than ever, it is clear that we are at the dawn of a new renaissance in aviation and technology, one that requires international collaboration and the support of agencies such as ICAO to reach its full potential.

Emerging and rapidly evolving technologies such as UAS often outpace regulations, and governments can be slow to catch up. As you may know, for many years the United States lagged behind other countries in establishing a regulatory framework for UAS. Yet thanks to years of continued collaboration between industry and government, there now is a flexible, risk-based approach to regulating UAS in the United States— one that is now held up as a model for the rest of the world.

In August 2016, the U.S. Federal Aviation Administration implemented the small UAS rule, which helped reduce

many barriers to civil and commercial operations in the United States. Among the rule's requirements, UAS must fly below 400 feet, within visual line of sight and during daylight hours. However, the small UAS rule also recognized the need to be flexible and established a waiver process for UAS operators to request permission from the FAA to fly outside the permitted standards, if it can be done safely.

As of this month, more than 79,000 platforms have been registered for commercial use and nearly 60,000 remote pilots have been certified to fly in the United States. The FAA expects more than 400,000 UAS to be flying for commercial purposes over the next five years, which is a five-fold increase from today.

These operators include oil and gas companies who are able to inspect hard-to-reach offshore oil rigs or flare stacks without shutting down their operations. They include cellular companies that can now inspect towers without putting workers in harm's way, and real estate professionals who now have entirely new perspectives that they can show potential buyers.

And increasingly, operators in these industries and many more are testing the limits of what is possible. More than 1,000 operators in 47 states have used the rule's waiver process to expand the types of UAS operations and in turn broaden the commercial services they offer. For example, CNN is now able to operate its UAS over crowds of people to capture new perspectives on breaking news, and Intel dazzles Disney World visitors with a light show that features 300 unmanned aircraft at one time.

And earlier this month, the world witnessed the tremendous potential of the UAS industry in the aftermath of Hurricanes Harvey and Irma. The industry has long known that UAS have tremendous benefits for relief workers and first responders. Following these disasters, people across the globe have seen UAS save time, money and, most importantly, lives. This unprecedented civil and commercial response underscores the need to streamline expanded UAS operations to get people the help they need when they need it most.

It is clear the UAS industry is primed for incredible growth. It is now more apparent than ever that

businesses and civil operators should be able to reap the full benefits of UAS technology without unnecessary hurdles. Industry stakeholders and governments must therefore work together on a global level to identify common solutions to the industry's greatest challenges.

One of the most pressing challenges is the creation of a UTM system that can work alongside existing manned aircraft traffic management systems. AUVSI has long advocated for the creation of a UTM system in the United States, but this is not just an American issue: it is an international issue. A truly global UTM system will reduce barriers to innovation and improve safety and security for all aircraft – both manned and unmanned.

The creation of a global UTM framework is dependent on sustained collaboration among stakeholders throughout the international community. Those of us gathered here today will help lay the groundwork, but it is just the beginning. Our efforts this week will help pave the way for automated, real-time airspace management that will ensure the success of UAS technology moving forward and safely integrate UAS into the U.S. and international airspace.

By coming together here today, we have demonstrated a shared, global commitment to safe and responsible flight. While a shared framework for UTM is a critical component to ensuring the continued safety of the skies, the global community can also take other steps to help ensure safety.

AUVSI recently unveiled five new initiatives to help promote safe and responsible operations among our membership. These initiatives include increased advocacy around safety, as well as safety awards and credit programs, a partner-approved accredited certification program for commercial operators and a collaborative information portal that will allow our members to share their experiences to help make the skies safer for all.

We also recently announced a collaboration with the National Council of Public Safety UAS to create education programs and informational materials to help facilitate the widespread adoption of UAS among first responders. As recent natural disasters have shown, UAS provide critical situational awareness to first responders and properly trained public safety officials, which can mean

the difference between life and death in emergency situations.

In addition, exploring the concept of a global UAS registry for all users might help create a culture of safety that transcends borders. Registration helps promote accountability and responsibility among operators, and a shared database could provide authorities with critical information no matter where an operator is flying.

And AUVSI also believes that safety education is critical as more people than ever are flying for the first time. That's why we helped launch the Know Before You Fly campaign in 2014 alongside the FAA and the Academy of Model Aeronautics. Know Before You Fly distributes safety information to new flyers in the product packaging of manufacturers such as DJI and at the point of sale for retailers such as Amazon. Although Know Before You Fly is currently a U.S.-focused effort, similar initiatives can help promote safe flying in other countries as well.

The global UAS industry is on the brink of tremendous opportunity, but we will only harness our full potential if we can demonstrate that we can do it safely. In the United States alone, the UAS industry stands to create

more than 100,000 jobs and over \$82 billion in economic impact. I don't doubt that these numbers could go even higher under the right regulatory framework. A worldwide framework that harmonizes regulations would ensure safe and responsible operations, allowing the entire global market to tap into the benefits that UAS stand to offer.

Finally, I would like to personally extend an invitation to each of you to attend next year's XPONENTIAL convention in Denver, Colorado. ICAO's announcement of the global UTM Request for Information at XPONENTIAL 2017 was the spark that will drive the discussions taking place over the next two days. XPONENTIAL 2018 in Denver this April will again gather professionals and policymakers who seek to take UAS higher and farther than ever before. About 8,000 people from more than 55 countries around the world – including Canada – attended XPONENTIAL 2017, offering the chance for a truly international conversation about the future of the unmanned systems industry. I hope you can join us.

Thank you again for inviting me to speak today. I look forward to the productive discussions we will have over the next two days to make the UAS industry a truly global one. The cooperation on display here in Montreal will have lasting effects for years to come.