



**Opening address by the  
President of the ICAO Council,  
Dr. Olumuyiwa Benard Aliu,  
to the 2017 ICAO RPAS Symposium**

*(ICAO HQ Montréal, 19 September, 2017)*

*Good Morning Ladies and Gentlemen,*

It's my great pleasure to join you today and open this Second Remotely Piloted Aircraft Systems (RPAS) Symposium.

This is a very exciting and rapidly-evolving area of activity, and one which is presently requiring us to define hundreds of new amendments to no less than 18 of our Convention's 19 Annexes. Let me please express our thanks and gratitude to all of those present who have been assisting us in these significant efforts.

The terms "Remotely Piloted Aircraft System (RPAS), Unmanned Aircraft System (UAS), or simply the most popular term, "drone", brings to mind different activities and operations.

These include package deliveries, cargo and humanitarian operations, the provision of internet bandwidth in remote communities, and even possible unmanned air taxis.

Literally thousands of small drones are being sold daily, and these are deeply diverse in their characteristics and features. Many are being sold to individuals who are unfamiliar with how to operate them safely and responsibly in an aviation environment, and this obviously poses serious concerns.

Recognizing the associated challenge and risks, the ICAO 39th Assembly urged us to expand the scope of our work and address this emerging and rapidly developing sector.

In April of 2016 we formed a Small Unmanned Aircraft Systems Advisory Group, and this group of experts from States and industry has been developing guidance material that resulted in an

online toolkit consolidating best practices for States that need to promulgate regulations regarding UAS.

As its work progressed, new opportunities and challenges were also identified such as the future UAS Traffic Management (UTM). This topic, along with its fundamental components of registration, communications and geo-fencing, will be addressed at the DRONE ENABLE event this coming Friday and Saturday. I strongly encourage all of you to be there.

It is very important for us to understand and distinguish between the different types of unmanned aircraft being discussed, and which ones ICAO is specifically addressing in its Standards and Recommended Practices (SARPs) versus those which will only be referenced in our less obligatory guidance material.

To begin with, any aircraft that is intended to fly without a pilot on board is an unmanned aircraft. However, those that will fully integrate with manned aircraft, particularly when conducting

operations in accordance with instrument flight rules, require all the same basic certificates and equipment as manned aircraft.

This highly capable part of the unmanned aircraft family are referred to officially as “remotely piloted aircraft”, or ‘RPA’, and it is these vehicles which are presently requiring changes to the full scope of the aviation regulatory framework – from licensing to airworthiness to safety management.

Then there are other types of unmanned aircraft which do not fit into the category of remotely piloted aircraft. These include unmanned free balloons and the very quickly-evolving small unmanned aircraft, and for these ICAO is developing guidance material to help States develop harmonized domestic regulations.

To put the scale of these activities into perspective, according to industry studies some 3.3 billion dollars in revenue was generated by unmanned aircraft system sales in 2015 *in the United States alone*.

U.S. drone manufacturers currently employ about 8,300 workers, a number which should grow to just under 10,000 by 2020 as the economic impact similarly expands to 4.3 billion dollars.

In Europe we see similar potential, with an economic market value in excess of 10 billion euros annually being projected by 2035, and over 15 billion euros by 2050.

As a consequence of these quickly growing markets and capabilities, it is presently estimated that some 10 per cent of global civil aviation operations will be unmanned in just ten years' time.

This considerable and truly remarkable expansion has been made possible by the very active participation of all industry players, in particular Remotely Piloted Aircraft Systems software developers, component suppliers, and companies involved in data, communications, and on-board optical systems, to name but a few.

And we should also acknowledge the involvement of various universities, institutes and research programmes; user group networks, insurance companies, the media and many more stakeholders that have progressively been involved in this new and challenging area of activity.

In this context, ICAO's mission to ensure the global alignment of the various solutions set out is now more important than ever.

Our rule-making efforts are now being lead by the Remotely Piloted Aircraft Systems Panel with its working groups, and supported by other Panels and Committees.

This broad scope of work led ICAO to very carefully prioritize and schedule the SARP development process. As a first step, we are addressing the Annexes related to the issuance of certificates. This includes the Remote Pilot Licence, Remotely Piloted Aircraft Systems Operator Certificate, and Certificate of Airworthiness.

Without these three documents, international operations are not permitted under the Chicago Convention.

This initial phase will be followed by the amendment of other Annexes that will support the safe, secure and efficient integration of remotely piloted aircraft into non-segregated airspace and aerodromes.

Developing SARPs, procedures and guidance, however, is not our only goal. In order to maintain the existing level of safety for manned aviation, we also have to assess and address very seriously how these SARPs will be implemented.

This Symposium therefore plays an essential role by enabling very open discussions among all of the parties, in particular relating to the interaction and collaboration between manned and unmanned aviation industries, along with regulators, to enable safe international operations.

This includes assessing the status of the regulations used in different parts of the world, with a view to fostering the emergence of a comprehensive and harmonized regulatory framework to support these activities.

We will also be looking forward to your discussions on the benefits of a regional approach to the development of Remotely Piloted Aircraft Systems operational regulations. In this respect Regional Safety Oversight Organizations can play an important role in supporting unmanned activities by facilitating mutual recognition of licences and certificates. This will be essential to the prosperous development of this unmanned industry.

This Symposium also provides different operators, international organizations, academia, and others with a great opportunity to showcase and update us on the full scope of current and near-term operations, as well as to share their experience in training and capacity building.



In this regard, I am looking forward to the outcomes of your more specific discussions on competency-based training and assessment, and on related responsibilities of States and operators. In particular, what knowledge, skills, and attitudes that Civil Aviation Authority inspectors will need to acquire.

An equally important question is how Remotely Piloted Aircraft Systems operators will fulfill their obligations by ensuring that their personnel are fully prepared for the safe planning of operations, from start to finish, that may involve scenarios not envisioned in the manned aviation environment which we are more familiar with.

Furthermore and as expected, the accommodation and further integration of unmanned aviation in non-segregated airspace continues to raise serious concerns for the manned aviation community. States and Air Navigation Service Providers therefore need to work in close collaboration to address these challenges, and to

provide solutions for this transition so that it will take place safely and effectively.

In order to integrate seamlessly, new technologies are demanded. Some of which are yet to be invented. We can also expect that these technologies will bring benefits to not only the unmanned aircraft industry, but lead to new safety performance improvements throughout the aviation system.

And there will also be other impacts beyond these air traffic management (ATM) aspects. Many other areas not addressed in the framework of this Symposium will be affected, including aviation security, airport operations, user charges, and the transportation of dangerous goods, to name but a few.

This is why ICAO is committed to holding further events of this nature so that all of these issues are assessed and resolved to the benefit of our many strategic objectives for civil aviation.

Consistent with our *No Country Left Behind* initiative, we will be focussing a lot of attention on training assistance to member States' regulatory and administrative personnel who are involved in the development and implementation of their Remotely Piloted Aircraft System regulation, certification and oversight activities.

To this end, we have developed a three-day workshop covering Remotely Piloted Aircraft Systems regulations, scenarios and best practices for States, operators and stakeholders and by the end of this year one will have been delivered at least once in every ICAO region.

In closing now ladies and gentlemen, I would like to take this opportunity to express ICAO's commitment to supporting the safe, secure, and orderly development of unmanned aviation. The potential for development in the UAS realm is considerable, and the challenges to be addressed will require our collective efforts. As

always, the active cooperation of all stakeholders will be essential to ensure that this emerging activity yields its full benefits. ICAO recognizes and continues to affirm its leadership role in this respect.

I am convinced that the ideas generated during this Symposium, as well as during DRONE ENABLE, will play a great role in shaping the very promising future of unmanned aviation, and I eagerly look forward to the pioneering and innovative outcomes of your work.

Thank you.