

Safely Managing Australia's Rapidly Changing Skies

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Good morning everyone, and thank you to the Australian Association for Unmanned Systems for bringing us all together and inviting Airservices to speak today. My name is Michelle Bennetts, I am the Executive General Manager of Customer Service Enhancement at Airservices.

I am sure I do not need to tell anyone in this room that, right now, there is a major opportunity before us – an opportunity to shape a new era in Australian aviation... one that includes, integrates and benefits from the deployment of unmanned aerial vehicles, particularly in low level airspace.

Whilst it is still early days, we know already that RPAS have the potential to significantly transform many aspects of our economy, and society, for the better. From agricultural management to home-shopping... from urban law enforcement to outback mining... from medical services to....well, to areas not yet dreamt of.... The sky is the limit – literally!!

The role of Airservices, and our mandate to act, in relation to this unfolding future is absolutely clear.

As the national Air Navigation Service Provider we are obligated to ensure the safe, reliable and efficient use of airspace for ALL of Australia's airspace users – from the ground up! Airservices has a further duty, under the 1995 Air Services Act, to foster and promote civil aviation in this country, with safety always being the most important consideration of course.

We take these obligations very seriously and work extremely hard to manage the delicate balance necessary to deliver on them. We do this through the provision of aviation communications, aeronautical data, navigation services, air traffic services and, in some locations, aviation rescue and fire-fighting services.

Today, the environment in which we undertake these vital tasks is changing rapidly. In order for us to continue to ensure the safe, reliable and efficient use of airspace for all users we MUST rethink our services to the aviation industry... we must evolve these services in line with fast emerging technologies and significantly changing industry needs.

It's an exciting and challenging time and we are working closely with a myriad of industry participants, as well the Department of Infrastructure, the Civil Aviation Safety Authority and other relevant government agencies. Creating strong alignment and maintaining this over time will be essential to ensure we, the aviation industry, are able to respond to these challenges in an efficient and effective manner.

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Take a look at this depiction of the fast and significant emergence of new airspace users – all of whom are deploying new technologies, across all levels of airspace, from the ground up. And the biggest forecast growth area? Drones operating in low altitude airspace.

Managing this complex transformation of Australia's airspace is going to be challenging, there is no doubt about that. Airservices, though, is well positioned to respond to these challenges.

We are a Government owned agency with accountability for ensuring safe and efficient use of airspace for ALL users in an area that covers 11 per cent of the globe... activity in this impressive 11 per cent of the world's airspace also includes two of the world's busiest air routes (Syd-Mel and Syd-Bris are repeatedly in the top 10 globally)... and today we safely serve more than 4 million aircraft movements annually, AND more than 160 million passenger movements per year.

We provide these services to today's airspace users on a commercial basis, and are deeply committed to a strong customer focus and the provision of value for money services. Over recent years in particular we have made it our business to invest wisely to deliver better services to our customers whilst also lowering the cost to them of doing so.

You may be aware that Airservices and the Department of Defence are working closely together to deliver OneSKY - Australia's world leading harmonised civil and military air traffic management system. This system will better support Australian air traffic controllers (both civil and military) as they continue to manage today's airspace users safely. It will also, though, support us in jointly building our capability to deliver future safe air traffic services; deliver more efficient air traffic services; manage future air traffic growth; support national security...and of course integrate new aviation technologies, including RPAS.

I lead the Customer Service Enhancement function at Airservices which includes both the delivery of OneSKY, and responsibility for planning and delivering future services required to respond to the unprecedented degree of change coming in our industry. Our key focus is ensuring that air transportation remains safe, secure, efficient and environmentally responsible – whilst, of course, accommodating the anticipated doubling of air traffic movements over the next decade AND facilitating the integration of new airspace users.

RPAS operators constitute a rapidly expanding and diversifying customer base for Airservices, and we are proactively organising ourselves to be in a position to cater effectively to this rapidly growing segment of our industry. We take the view that engagement and facilitation, within the context of our necessarily strict safety culture, will serve Australia well and nurture the economic and social possibilities of these new technologies.

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This is a snapshot of our Low Level Airspace Management Program. These are the initial three priority areas that we have identified to commence this major transformation collaboratively, and with a whole of government approach.

- The first is the essential task of airspace boundary integration - mapping and geofencing the airspace, building the capability to detect and track 100 per cent of aircraft within it, and building systems to integrate unmanned aircraft traffic into the existing air traffic management system. We will work with partners focused on UAV surveillance and identification to achieve this.
- The second is information flows: the integration of information between unmanned aircraft systems to ensure the safe passage of multiple aircraft through shared airspace. A key component of this initial work is the testing of a centralised data platform for the sharing of flight information.
- The third is airspace design and future route structures. This is about working with our Government stakeholders to plan and manage dedicated air routes and air corridors for the long term. A key part of this work at Airservices will be to consult closely with local communities and address concerns on the ground. We will build on our strong existing community relationships to engage with potentially affected communities to ensure safety and to understand and alleviate where possible noise, privacy, environmental and any other concerns.

And this work plan is just the beginning... there is a huge workload ahead of us and there is no time to waste. Again, I am sure it is of no surprise to anyone here today that the global market size for RPAS is expanding extremely rapidly. The compound annual growth rate of the value of the RPAS market was more than 120 percent from 2015 to 2018 (that up from \$1.3 billion to \$14.2 billion). Over the next 5 years this is anticipated to continue to grow by more than 20% annually to produce a market worth \$43 billion worldwide by 2024.

What's even more relevant for us here today, however, is that our Asia-Pacific market is already nearly the same size as the Americas market, and is predicted to grow much faster than the Americas in the run-up to 2024.

The Asia-Pacific is forecast to be far and away the biggest global market for RPAS in less than five years' time.

This growth in the context of a necessarily risk-adverse aviation industry requires action now to ensure safe integration of new and existing airspace users. Inherent safety risks from RPAS operating in traditional environments, without adequate detectability and traceability, are evident. We have already seen notable incidents at Gatwick, Heathrow, Dublin and Frankfurt Airports. These incidents can clearly have significant, and long term, adverse impacts on the societal acceptance required to allow our industry to grow.

As the commercial drone industry develops, criminal, activist or even terror-related uses, invasions of privacy, business sabotage and the weaponisation of commercial drones are very real concerns alongside technical failures, collisions and crashes.

To smoothly manage the integration of these new aircraft types into the Australian air traffic system will require a great deal of collaboration and cooperation.

Airservices has a strong track record of effective consultation across Australia with our diverse stakeholders including our owner, the government, aviation customers in commercial and general aviation sectors, as well as local councils and communities, and high-tech suppliers and partners.

We will leverage these core capabilities, as we engage with entirely new entrants to the aviation industry: fast-moving, entrepreneurial and self-described disruptive global businesses including (or much like) the Google, Uber and Amazons of the world.

We recognise that integrating these players into our stringent safety environment represents a challenge, but our approach will be one of maximum transparency and

engagement, education and information to assure the safety and efficiency of the use of Australian airspace as it expands and evolves.

And, of course, there will need to be discussions around equitable and appropriate cost-sharing for all Australian airspace users down the track.

With our deep experience and strong networks Airservices is well placed to navigate the interests of all airspace stakeholders in this new era and bridge the gap between industry and commercial imperatives, the government, the regulator and the broader community.

We can act as an honest broker, ensuring equitable, safe and efficient access for all airspace users, whilst also ensuring we appropriately manage the associated environmental impacts.

In conclusion, RPAS technologies will undoubtedly continue to evolve rapidly. The commercial uses will increase in unforeseeable ways. Even hobbyists will acquire more capable vehicles and seek to push the boundaries of their capabilities. Criminal or hostile state-sponsored interventions must be planned for. Socially beneficial uses for RPAS should be encouraged.

The constant factor in this future is the safe, smart and efficient management of our airspace. Airservices looks forward to contributing positively, expanding our range of services in Australian airspace and working collaboratively with existing and future airspace users to ensure a safe and progressive transition to Australia's aviation future.

Thanks again to the organisers for inviting Airservices to speak today, and to all of you for listening. I am happy to take any questions.