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AMTA Submission

Department of Infrastructure, Transport,
Regional Development and Communications

Emerging Aviation Technologies – Drones



About AMTA

The Australian Mobile Telecommunications Association (AMTA) is the peak industry body representing Australia's mobile telecommunications industry. Its mission is to promote an environmentally, socially and economically responsible, successful and sustainable mobile telecommunications industry in Australia, with members including the mobile network operators and service providers, handset manufacturers, network equipment suppliers, retail outlets and other suppliers to the industry. For more details about AMTA, see <http://www.amta.org.au>.



Overview

AMTA welcomes the opportunity to provide a mobile industry view in relation to the development of a national policy for the management of drones and other emerging aviation technologies. We understand that the Issues Paper is a starting point for ongoing discussion and collaboration between stakeholders to develop a comprehensive national policy that enables Australia to take advantage of the many benefits and innovative applications drone technologies will bring to our economy and society, while still balancing the management of risks in relation to safety, security and interference to mobile communications networks. AMTA particularly appreciates that the Government is ensuring that a consistent, national approach is adopted as we believe this will serve to foster investment and ensure regulations are not unduly burdensome on industry. We support the Department's proposed core principles and proposed approach to policy development. We would like to be included in the conversation as the national policy framework is further developed, particularly with regard to security issues and managing risks around the potential for counter-drone measures to negatively impact on mobile communication networks.

Drones and 5G

As noted in the Issues Paper, drones are an emerging technology and a rapidly growing industry with the potential to offer significant economic and social benefit. 5G networks will offer lower latency, network slicing and greater responsiveness, thus enabling further applications of drone technology to be developed and rolled-out.

Safe integration of drones into the national airspace is important for the future prosperity of Australia. The telecommunication industry is evaluating its infrastructure, standards and overall role in enhancing mobile networks to support the drone industry with cellular connectivity¹.

For example, drones could in the near future be equipped with 5G connectivity that would improve their safe operation. This may include the ability for the device to automatically download aviation charts rather than relying on users to manually update their systems. Through this, the drone would always be aware of restrictions in its surrounding airspace.

5G could enable connectivity from individual drones to Unmanned Traffic Management (UTM) Systems, including the ability to transmit their location and altitude to air traffic control. In the event a drone commits an airspace incursion, air traffic control may then be able to issue an instruction to the drone to exit the controlled or restricted airspace.

More specifically, we note that Telstra has been researching the features and characteristics that the aviation industry requires of its wireless networks to provide communication, navigation and

¹ <https://www.gsma.com/iot/aviation/>

surveillance to aircraft, including drones, recreational and general aviation operating in the currently unmanaged lower altitudes².

We also note that mobile carriers are making use of drones to inspect and maintain their cell towers, making these tasks both more efficient as well as safer for employees³. The efficiencies introduced by using drone technology are especially important during times of natural disaster when re-establishing communication quickly is of vital importance for disaster recovery operations.

Security and Interference Issues

While drone technology has many potential benefits for our society and economy, we note that there remains potential for misuse of drones, including malicious use.

Inadvertent misuse of drones can most likely be addressed by comprehensive education campaigns supported by a strong regulatory framework that includes effective tools of enforcement. We believe registration is one such tool that can be effectively used to ensure that drones are used safely and in accordance with community expectations and we note that CASA has recently introduced registration for commercial drone operations. While this is a step in the right direction, we believe over time drone registration should move towards electronic registration. We see multiple benefits with e-registration, including:

- easy identification of drones that are not registered;
- easy identification of drones that may be operating outside of standard operating conditions and providing visibility to authorities to the identity of the owner and potentially if they have permission to be operating in that area; and
- allowing enforcement personnel to focus on craft and operators that are either not registered or not doing the right thing;

Electronic identification could be potentially provided either by localised transmission of the identification code or through mobile network connectivity if drones are equipped with SIM technology and cellular modems.

We note that there are interim arrangements in place to facilitate use of counter-drone measures by law enforcement and national security agencies that would otherwise be prohibited

² <https://www.gsma.com/iot/casestudies/telco-gsm-networks-for-low-altitude-airspace-management-telstra-drones-case-study/>

³ <https://informedinfrastructure.com/45504/cell-tower-inspection-and-maintenance-uav-reality-capture-and-digital-twin-pilot-project-suggest-major-efficiency-gains/>

under the *Radiocommunications Act 1992*,⁴ the *Civil Aviation Act 1998* as well as relevant State laws.

We strongly submit that a long-term approach to managing the risks associated with malicious drone use and the deployment of counter-drone measures is needed. To this end, we agree with the Department's view that "it is necessary the regulatory framework supports actions required to address malicious drone use" (p.30). However, in our view such an approach must take into consideration the risk of interference to mobile communication networks.

Mobile communications networks are fundamental to delivering connectivity to the community, businesses and industry. Connectivity is an enabling force in our economy and society, driving productivity and innovation. Mobile networks are also critical to ensuring public safety through the provision of services including Triple Zero.

The use of counter-drone measures must always be proportionate to the threat to public safety and balanced against the need to avoid interference to mobile networks, noting the critical role networks play in ensuring public safety, particularly during times of emergencies, natural disasters and other crises.

We urge that other types of counter-measures such as UTM, geofencing, drone registration and remote identification, should be closely investigated and that the deployment of counter-measures that cause interference to networks should only be used as a last possible recourse.

We agree with the proposed criteria to be included in a policy framework for drone security outlined in the issues paper (at page 33). AMTA, would also add that the mobile industry, as well as the Australian Communications & Media Authority, should be included as stakeholders in the further consideration and development of this policy framework.

Spectrum for Drones

AMTA notes that currently drones use unlicensed spectrum, however as this is both a rapidly growing industry and developing technology, and since some commercial drone operators have expressed a desire for dedicated spectrum, it would be prudent for the Australian Communications & Media Authority, as the agency responsible for spectrum management and planning, to consider the options for allocating spectrum for this particular usage. Any such allocation should be considered in the context of international spectrum allocations so that harmonisation can be achieved and will require consultation with a wide range of stakeholders via the ACMA's Five Year Spectrum Outlook.

⁴ We note that the Radiocommunications Bill 2020 will likely replace the current Act before the end of 2020, but this will not have material impact on the prohibition of the use of such devices.

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