



HONG KONG PREPARES FOR A DRONE INVASION

In April this year, Hong Kong's Civil Aviation Department (the CAD) launched a public consultation into proposals to further develop regulations for the use of Unmanned Aerial Systems (UAS) in and above Hong Kong. We submitted a paper setting out our own views before the consultation closed on 3 July. Given the growing popularity of this new technology in Hong Kong and worldwide, it will be interesting to see what other responses the CAD receives.

“The aviation industry accepts that UAS are not a fad or passing craze. Some stakeholders have actually incorporated drone use into their own operations e.g. visual inspections for aircraft maintenance and overhaul. Others will follow suit. It is therefore necessary to raise standards of UAS operations and ensure that they are no longer a regulatory afterthought.”

Drones are not merely toys for hobbyists. The potential use of UAS for commercial and industrial purposes is enormous and growing exponentially. Those uses include agricultural work (e.g. crop dusting), aircraft maintenance (e.g. visual inspection of aircraft), oil and gas pipeline monitoring, and operating in hazardous conditions. The delivery of consumer goods to remote areas has captured the imagination, an opportunity that Mainland China is currently exploring in the provinces of Jiangxi and Shaanxi. Government authorities also see the potential opportunities: Hong Kong Police have tested infrared UAS for anti-crime and anti-terrorism operations, and the Hong Kong Fire Services Department has successfully used UAS in search and rescue operations.

Indeed, without that regulatory change, Hong Kong will lag behind other global cities. Singapore, for example, has been actively exploring the use of UAS in a congested urban environment. Airbus Helicopters and Singapore Post have been developing a UAS parcel delivery system and, on 12 July 2018, the Civil Aviation Authority of Singapore (CAAS), the European Aviation Safety Agency (EASA) and Airbus signed an agreement to collaborate in the development of UAS safety standards and regulatory requirements in urban environments.

Hong Kong therefore needs to keep pace with the changes that this new technology brings and adapt its regulatory framework to embrace it.

The Study

In 2017, the CAD commissioned the Netherlands Aerospace Centre (NLR) to undertake a study on the regulation of UAS in Hong Kong (the Study). On 12 March 2018, NLR issued its final report, which the CAD has made available to the public as part of the consultation process. NLR's six key recommendations for Hong Kong are as follows:

1. To register UAS above 250g with a national database;
2. To adopt a risk-based approach to classifying UAS operations, based on weight and how UAS will be operated. There would be three categories (A, B and C) as suggested by ICAO;
3. To develop training and assessment requirements of differing levels, based on those risk categories;
4. To produce a Hong Kong drone map, including no-fly zones and dedicated areas;
5. To consider insurance requirements for certain operations; and

6. To study the potential of indoor use for UAS further.

'Weighing up' the risk

We would broadly agree with the above recommendations. They follow similar national and supra-national projects being undertaken globally as governments, regulatory authorities and civil aviation authorities all scramble to adapt their existing regulatory regimes to meet an invasion of unidentified flying objects. At least they will not be 'unidentified' if over 250g. This will align Hong Kong with best practice in the US, China, the UK and the EU. It would however be impractical, burdensome and unnecessary to register all drones. Maximum Take-Off Mass ("MTOM") is a key measure, but it should not be the single most important factor in considering UAS operations. This is especially the case for Hong Kong's challenging topography and densely populated areas. MTOM could become arbitrary and less relevant as the technology and risk profile evolves.

Exemptions

An exemption for model aircraft operating at the Hong Kong Model Engineering Club's facilities in Yuen Long in the New Territories is reasonable, but there should not be an automatic exemption for privately built/DIY drones. Nor should blanket

exemptions be issued for indoor operations e.g. for First Person View (FPV) racing. In any event, owners and managers should be accountable for FPV competitions and UAS use on their premises in the ordinary owner/occupier liability sense. Whilst not being a threat to regular airline traffic, the potential for injury or harm in an enclosed space should still be assessed in an operation-centric manner. A series of high-profile drone injuries (observe Enrique Iglesias' blood-soaked hand as a result of entanglement with a drone during a concert in Mexico in 2015) will be the tip of the iceberg. The popularity of tourism with UAS is growing. It presents a unique challenge for the CAD and authorities to monitor. However, temporary permits and an awareness campaign for Hong Kong visitors could be explored.

Commercial activity: licence?

The Study recommends removing the differentiation between recreational and commercial operations in favour of a broader view about operational risk. Focusing on how drones are used is sensible. Performance-based risk assessment is increasingly common in the wider aviation industry. However, we would argue that retaining a specific licensing regime for commercial work in Hong Kong has merit. It would create a degree of formality, maintain standards and foster public trust. Arguably, it will also be expected as UAS operations become more mainstream in daily life. The CAD must not let administrative obstacles stifle drone entrepreneurship in Hong Kong. A pragmatic approach is necessary.

Tailored training, safety awareness and no-fly zones

Minimum training and assessment requirements should correspond to the different categories, but should also be practical, concise, relevant and proportionate. Regular updates and bespoke training packages will heighten safety awareness and 'professionalise' commercial operations (Beyond Visual Line Of Sight (BVLOS) and hazardous conditions) to develop appropriate standards. The CAD should be proactive in endorsing training syllabuses and approved suppliers.

We also support 'no fly zones' for all types of user. An integrated drone map for Hong Kong will allow development to flourish whilst mitigating collision risk with commercial and general aviation operators, including the many helicopter flights in and around Hong Kong. Airports and other critical national infrastructure should be clearly signposted as a minimum, but areas for concerts, sports events and mass public gatherings should also be mapped out. Ultimately, a dedicated area for hobbyist drone flying in Hong Kong could be created. It would not be too dissimilar to model aircraft flying. However, space is at a premium in the region and people seem to delight in bird's eye views of urban life, despite the obvious privacy concerns.

Improving technology

Technology, such as ADS-B (Automatic Dependent Surveillance-Broadcast), geo-fencing, radar and built-in transponders, will play a vital role in enhancing flight safety. It should not interfere with regular air traffic management systems though. Nor should incidents involve resources from the nascent Hong Kong Air Accident Investigation Authority, unless part of a wider incident concerning manned aircraft.

Insuring the risk

Safe operations should, where possible, be underwritten by effective and meaningful third party liability insurance. We are aware that specialist insurance products are becoming available worldwide and Hong Kong is no exception. However, the extent to which these new Hong Kong drone regulation proposals will be adopted will determine how much coverage insurers are willing to offer and at what price. Legal risks go beyond collision and property damage. They will also include bodily injury, privacy and harassment, trespass and nuisance and cyber security (hacked and spoofed drones used for nefarious purposes).

Go bigger – Category C

The proposals for enhanced UAS regulations in Hong Kong have excluded rules to develop specific new provisions for larger Category C drones (weighing over 25kg). The

Study recommends that, before considering legislation to govern heavier UAS in Hong Kong, the CAD waits for ICAO to publish its own Standards and Recommended Practices for Remotely Piloted Aircraft Systems (RPAS), envisaged at some point in 2022. That is a sensible approach. However, we would encourage the CAD to be proactive and embrace the opportunities that large UAS will undoubtedly offer to Hong Kong in the near and distant future.

For life, not just for Christmas

The aviation industry accepts that UAS are not a fad or passing craze. Some stakeholders have actually incorporated drone use into their own operations e.g. visual inspections for aircraft maintenance and overhaul. Others will follow suit. It is therefore necessary to raise standards of UAS operations and ensure that they are no longer a regulatory afterthought. We await the outcome of the consultation and the next steps taken by both Legco and the CAD with interest.

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