How brokers and carriers can combine to help drones take off

AIG

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Across (and above) Asia Pacific, the introduction of low-cost, reliable Unmanned Aerial Vehicles (UAVs) offers an unprecedented opportunity for invention and innovation. **Mr Daniel Crispe** of **AIG** says this in turn will create opportunities and challenges for the aviation insurance industry, including brokers and carriers.

One of the more curious aspects of the current fleet of military UAVs is the sheer number of people required to operate them. UAVs – also known as drones, or remotely piloted aircraft – demand a small battalion of logisticians, pilots, engineers, radar technicians, image analysts and all the other specialists that come together to create a successful UAV mission.

By contrast, the emerging squadron of UAVs used for civilian purposes is notable for how few people are required to operate them. Some require only a single operator, with the UAV small enough to stow in the boot of a small saloon car. Others are truly autonomous, needing no real-time control, rather carrying out a pre-determined set of instructions within a broader set of operating parameters.

Learning to fly

For aviation enthusiasts like me, the dawning age of the UAV is both tremendously exciting and a little unnerving – a little like flying a plane, you might say.

Until recently, I could trust that a helicopter pilot had earned her license through countless hours of flying with an instructor before passing a formal test. Now I have no idea whether I can trust the operator of a large UAV flying not too far above my head, nor indeed if there is an operator or simply a set of (hopefully well designed) operating instructions. Where pilots require a license before they can fly, private UAV operators simply need a credit card and a shipping address.

A quick scan through recent newspapers or the internet highlights that UAVs, and how to harness their potential, is a live debate showing few signs of reaching a conclusion. In Colorado, US, a UAV operator found a lost 80-year old man within 20 minutes after search parties had sought him in vain for over three days. Only a month earlier, however, the National Parks Service in the US, custodians of Zion Park and the Grand Canyon, announced plans to ban UAVs from their properties.

On the other side of the world, a triathlete in Australia was reported to have been injured when a UAV being used to capture pictures of the events allegedly failed and fell onto her, knocking her to the ground. Meanwhile, the use of drones in Africa has become commonplace as game wardens and conservationists seek to harness technology to protect dwindling stocks of rhinos and elephants.

New technology, new applications

The freedom and potential afforded by UAVs means that they are here to stay. Where at the moment legislators and regulators are flying by the seat of their pants, soon they will introduce a framework of rules, governance and legal precedents within which UAVs will operate safely.

Though the use of unmanned aircraft is still in its infancy, the potential applications for unmanned aircraft are almost limitless. Some examples include:

- Livestock monitoring, frost protection and crop spraying
- Real time road traffic monitoring and rerouting

- Humanitarian applications including surveying disasters zones and aid drops
- Search and rescue missions in hazardous locations
- Structural inspections of oil rigs, bridges and power lines

Despite the technology's tender years, UAVs are on the cusp of being embraced by the commercial mainstream. As my colleague, Jose Harfuch, reported in the October issue of *Asia Insurance Review* (Pages 68 & 69), both Amazon and Google are experimenting with the use of autonomous UAVs to deliver packages to customers. Within minutes of pressing the ubiquitous "1-Click" button, soon I will be hearing the far away buzz of a UAV coming steadily closer with my must-have purchase in its embrace.

These exhilarating developments will open the door to new business for brokers and carriers as UAVs will require insurance coverage, like any other aircraft, only on a smaller scale. Indeed, we may have to invent entirely new insurance classes as we grapple with issues of product liability vs operator responsibility.

Developing regulatory landscape

Among the many media stories involving UAVs recently, there has been a growing trend for the technology to be used to trespass, stalk and harass public figures such as Miley Cyrus, Pierce Brosnan and Selena Gomez.

As we saw with the invention of cybercrime after the widespread adoption of the internet, the development of a new technology generally outpaces the lawmakers trying to regulate it. Adequate and consistent laws and regulations around the operation of unmanned aircraft will no doubt be developed, particularly with regards to privacy, but regulations will take time to evolve and adapt to this new and rapidly changing technology.

It would be incorrect to suggest that there are no regulations regarding the operation of unmanned aircraft, as most developed and several emerging nations have had a go at regulating this small but booming corner of the aerospace industry. The challenge is that there is no consistent approach.

Australia, for instance, is focused on commercial operations, whereas Japan's laws are in respect of unmanned helicopters used for crop spraying. At the other extreme is New Zealand which does not yet have any effective regulations in relation to the operation of unmanned aircraft.

Moving away from the operating environment and focusing on the technology itself, the quality, size and specification of unmanned aircraft varies widely. Insurers will have to consider a wide range of UAVs, from those being built by "makers" in private garages for their own use, to high-tech commercial fabricators employing exotic composite materials for near-military grade UAVs for maritime patrols.

Building the frameworks

Unlike more traditional aircraft types, unmanned aircraft present a high level of uncertainty to insurers which could be perceived as greater risk. Given the callow nature of the UAV industry, there simply isn't the historical data available for us to gauge risk frequency and severity in the way that the century-old manned aircraft industry enjoys.

At AIG, we have seen a significant increase in the number of submissions in relation to UAVs coming from manufacturers, distributors and operators. Unfortunately, in general, the quality of data is patchy and inconsistent, which imposes a time burden on the brokers and clients as we return for more information and data to aid our decision making process.

Brokers and carriers have a chance to support the growth of this new industry. Part of our role is simply to help our clients get protection for their staff, activities and liabilities as quickly as possible. To help accelerate submissions and binding, at AIG, we recommend the use of a simple but comprehensive checklist.

Checklist for UAV insurance submissions

- ☑ What coverage is required? Hull & liability or liability only?
- ☑ Aircraft specifications, including make and model, current value, wingspan and maximum range / altitude / flight time / take-off weight
- ☑ A positive means of identification, such as a serial number
- ☑ Application of the aircraft, for example fish spotting or crowd monitoring at a sporting event
- ☑ How will the aircraft be operated? Manually, semi-autonomously or fully autonomously?
- ☑ Pilot information (on the ground), including relevant training, qualifications and experience
- ☑ Countries/locations where the aircraft is anticipated to fly? Along with a summary of the operating environment, such as over water or inner city

UAVs poised for take-off in Asia Pacific

UAVs are poised for take-off in Asia Pacific, with material implications for a myriad of industries, from public safety to farming automation, from disaster relief to infrastructure maintenance. As regulatory hurdles are cleared, the use of UAVs will accelerate rapidly.

As the leading Aviation insurer in Asia, AIG believes that UAVs will soon be a vibrant part of the market. AIG has already developed a suite of innovative insurance solutions for the exposures faced by the full range of UAVs, including remotely piloted, semi-autonomous, and fully autonomous aircraft. The combination of these exciting propositions and our own personal enthusiasm for aviation allows us to say with confidence, "Bring on tomorrow".

Mr Daniel Crispe is the head of AIG's Asia Pacific Aerospace Insurance team, based in Singapore.

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