

Re/insurance in the age of drones

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Consequences of technological and regulatory developments for the insurance industry: The Swiss Re aviation perspective

Drones/UAS Opportunities and Threats

- The commercial use of drones and UAS is increasing exponentially worldwide and accordingly the risks and opportunities associated with it (estimate in 2010 for 2020 ca. 15,000 drones, reality today around 1 mio in existence worldwide).
- Drones/UAS are becoming cheaper, smaller and easier to operate, many industries are already using drones and studying to expand their use.
- Variety and more intensive use mean new and higher risks exposures emerge.
- Different and slow progress of regulations are challenging the use of UAS/drones.
- Education and safety training is becoming crucial to mitigate the risk of use.

When is It an Aviation Risk?

Generally, when it is regulated by the local aviation authority

- Different definitions in different jurisdictions, one common feature: commercial use
- More than 500,000 commercial drones are expected to be in operation in the next 5 years in the US
- Commercial uses in
 - aerial photography (archeological sites, aerial surveys, etc.)
 - agriculture (monitor crops, spraying and watering)
 - industrial inspection and surveillance
 - insurance claims adjusting and risk assessment
 - government and municipalities (law enforcement, surveillance, fire departments, weather monitoring, media/film and news coverage)
 - more to come like: delivery of goods, vaccines to remote areas
 - big aircraft manufacturers are building up their capabilities

Regulatory Environment

- Emerging and dynamic regulatory environment
- Vast difference in regulations across geographical areas and jurisdictions
- Common feature:
 - Distinction between recreational and commercial use
 - Visual line of sight and weight restriction of roughly below 30 kgs and certain altitude (150 meters)
- New US rules (FAA Part 107) since August 2016 will accelerate the growth of the commercial UAS/drone industry
- Some governments and regulators may struggle to keep up with the exponential growth of uses and numbers.

Risk Considerations

More commercial and civilian usage will result in higher operating risk but reduced exposure in areas replaced by UAS/drones

- Loss of control
- Mid-air collisions
- War and terrorism risks
- Cyber attack
- Privacy issues/voyeurism
- Vandalism

Risk Mitigation and Insurance

Some considerations

We still don't know what we don't know (unknown unknowns)

- Steered by named pilots/operators only?
- Pilot experience and training?
- Operational use?
- Loss history?
- Maximum take-off mass?
- Proximity of populated space and no fly areas?
- Does operator routinely obtain prior approval from local aviation authority?
- Are flights on basis of Visual Line of Sight (VLOS)?

Risk Considerations

The sheer number of drones and the multitude of uses will challenge the insurance industry:

- Could it be so unique as to require its own specialty line such as space today?
- Could technology become so much part of «everyday» that all drone use could be incorporated into CGL or the liability sections of insurance policies?

An exciting new area is emerging and we want to be part of it and partner with you. Thank you!





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