

The Intersection of Drones and Insurance



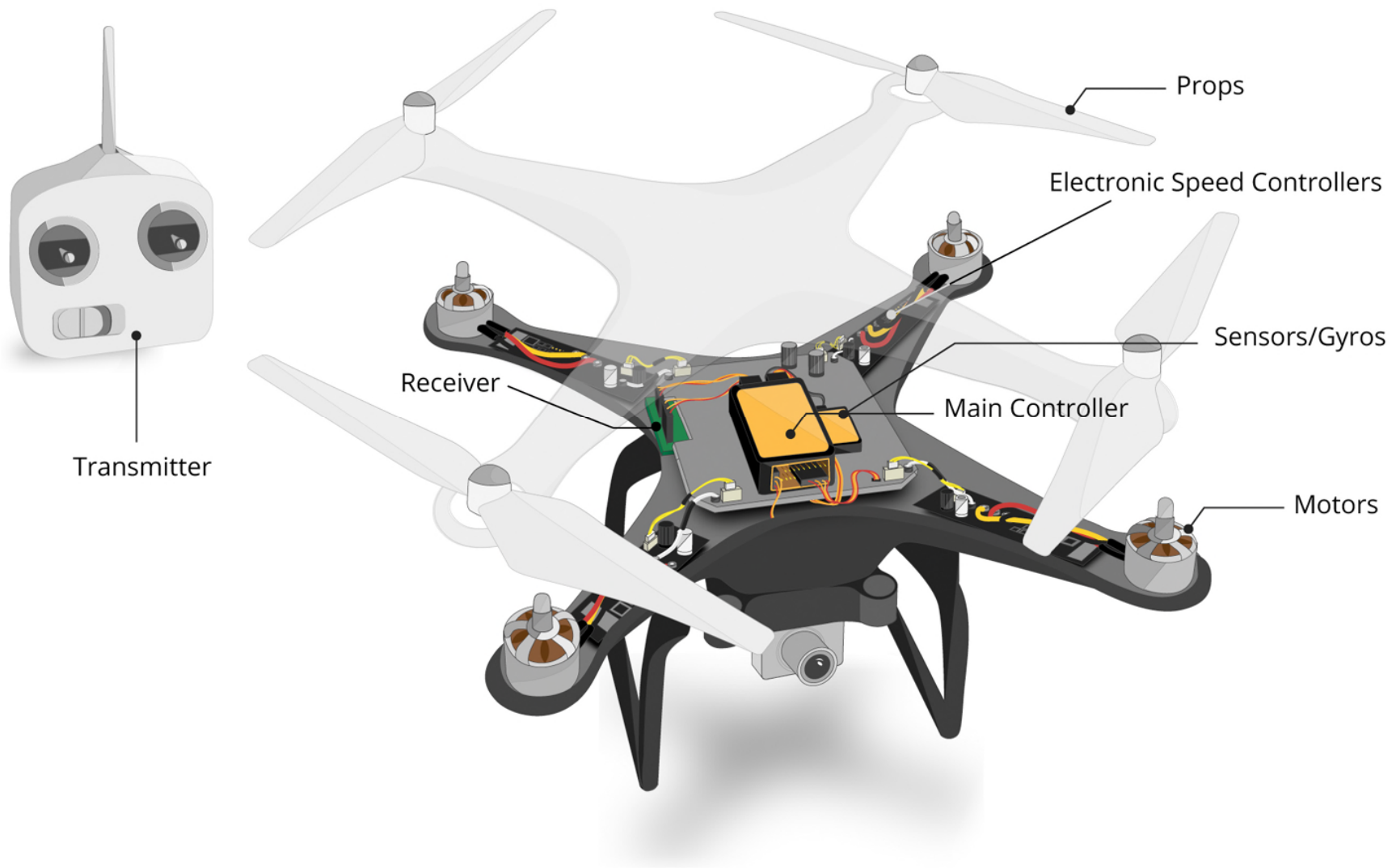
March 30, 2017
Aaron Simon, Esq.
Brownson & Linnihan, PLLP



A discussion of the use of drones by insurance companies and the insuring of drones in both commercial and personal settings.







Outline

- 1) Regulatory/legal matters affecting drone use.**
- 2) Use of Drones by Insurance Companies.**
- 3) Insurance products regarding the commercial use of drones.**
- 4) Insurance products regarding personal use of drones.**





Arc de Triomphe in Paris.

Drone statistics

7,000,000

- **The FAA estimates seven million drones will fly in US skies by 2020. Up from 2.5 million in 2016.**
- **In the 2014-2015 holiday season there were nearly one million consumer drones sold in the U.S.**
- **In 2016 FAA estimates 600k commercial drones in use. 2.7 million in 2020.**



Drone statistics

\$5.6 billion

- **Drone industry in 2020.**
- **Estimated Annual growth rate of 32% between 2015 and 2020 into a \$5.6 billion industry.**



Drone statistics

\$10 billion

- **Out of the four major companies that produce drones, DJI is the biggest. Chinese Co. Founded in 2006.**
- **In May of 2016, it was valued at \$10 billion -- nearly six times the market cap of GoPro at the time, which is now entering the drone market.**
- **DJI sales '13 – \$130M, '14 – \$500M, '15 – \$1B. '17 IPO?**





© AirPano / Caters News Agency

Manhattan, New York.

Regulatory/legal matters affecting drone use

- 1) 1958 Federal Aviation Administration or FAA established. Predecessor was Civil Aeronautics Administration (CAA).**
- 2) Through the FAA the Federal Government controls all U.S. airspace. There are several different types of airspace depending on altitude and location to important/restricted areas (airports, stadiums, etc..)**
- 3) 1981 – FAA issued Advisory Circular 91-57, Model Aircraft Operating Standards. Model RC airplanes had been around since early 1900s.**



AC 91-57

DATE June 9, 1981

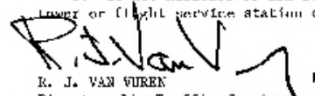
ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

Subject: MODEL AIRCRAFT OPERATING STANDARDS

1. **PURPOSE.** This advisory circular outlines, and encourages voluntary compliance with, safety standards for model aircraft operators.
2. **BACKGROUND.** Modelers, generally, are concerned about safety and do exercise good judgement when flying model aircraft. However, model aircraft can at times pose a hazard to full-scale aircraft in flight and to persons and property on the surface. Compliance with the following standards will help reduce the potential for that hazard and create a good neighbor environment with affected communities and airspace users.
3. **OPERATING STANDARDS.**
 - a. Select an operating site that is of sufficient distance from populated areas. The selected site should be away from noise sensitive areas such as parks, schools, hospitals, churches, etc.
 - b. Do not operate model aircraft in the presence of spectators until the aircraft is successfully flight tested and proven airworthy.
 - c. Do not fly model aircraft higher than 400 feet above the surface. When flying aircraft within 3 miles of an airport, notify the airport operator, or when an air traffic facility is located at the airport, notify the control tower, or flight service station.
 - d. Give right of way to, and avoid flying in the proximity of, full-scale aircraft. Use observers to help if possible.
 - e. Do not hesitate to ask for assistance from any airport traffic control tower or flight service station concerning compliance with these standards.


R. J. VAN VUREN
Director, Air Traffic Service

Initiated by: AAT-220

Regulatory/legal matters affecting drone use

- 4) In the Mid 2000s FAA clarified that commercial use of drones was illegal/prohibited. Only exception was COAs from the FAA, and only granted to businesses with a public entity (public university or government agency) as a sponsor. 2005 to 2013 timeframe.
- 5) But drone use (particularly commercial) was limited.
- 6) There still was a carve out for recreational/personal use.



Regulatory/legal matters affecting drone use

- 7) Desire to use drones commercially vastly increased.**
- 8) Ease of regulation began with granting exemptions – section 333. Started in 2013. No longer needed public entity sponsor but still hard to obtain.**
- 9) Hundred of pages in application and \$10,000 plus in legal fees. Takes six months or longer.**



Regulatory/legal matters affecting drone use

- 10) Initially commercial pilot's license required – gradually relaxed.**
- 11) 500 feet from any vehicle, vessel or structure. Needed permission. 500 feet from any uncovered person regardless. Many other rules.**
- 12) These were extreme constraints. Very prohibitive.**
- 13) January 2016 some companies began pushing more relaxed drone use for industry. In August 2016, new rules approved.**



Regulatory/legal matters affecting drone use

14) Current FAA rules (Part 107):

- a) Must weigh less than 55 lbs. (25 kg).**
- b) Line of sight.**
- c) Not over any person not involved in use of drone.**
- d) Daylight only.**
- e) Maximum groundspeed of 100 mph (87 knots).**
- f) Maximum altitude of 400 feet.**
- g) ...**

Federal government has jurisdiction but states attempting to assert jurisdiction.



Regulatory/legal matters affecting drone use

- 13) Registration required. In December of 2015 the FAA announced that all UAVs weighing more than 250 grams flown for any purpose must be registered with the FAA.**
- 14) State and local rules.**
- 13) Personal privacy and trespass issues.**



Regulatory/legal matters affecting drone use

Resources:

- a) www.faa.gov/uas
- b) https://www.faa.gov/uas/media/Part_107_Summary.pdf
- c) https://www.faa.gov/uas/resources/uas_regulations_policy/media/uas_fact_sheet_final.pdf
- d) <http://www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx>
- e) <https://www.faa.gov/about/history/timeline/>



Regulatory/legal matters affecting drone use

- **Take away - there is a lot of regulation of commercial drone use. It's new. It's complicated.**
- **Regulation frequently changing. Generally becoming less regulated.**
- **Potential for conflict/inconsistency between Federal Law (FAA) and State and local law.**
- **Lots of illegal/unauthorized commercial drone use. Wild WILD West – but FAA is beginning to crack down.**





© AirPano / Caters News Agency

Volcano Plosky in Kamchatka, Russia

Examples of problems/issues

- 1) **\$55,000 fine for taking photos for friend.**
<http://dailysignal.com/2016/06/12/he-flew-a-drone-to-take-photos-for-a-friend-now-hes-facing-55k-in-government-fines/>

- 2) **Drone photography company fined \$200,000 by FAA. Drone-photography company fined \$200,000 by FAA – initial fine sought was \$1.9 million -**
<http://www.usatoday.com/story/news/2017/01/17/faa-drone-skypan/96671342/>



Examples of problems/issues

- 3) **Cleveland Indians starting pitcher Trevor Bauer was pitching Game 3 of his team's playoff series against the Toronto Blue Jays in October of 2016 when a serious cut on his right hand pinky finger caused him to exit game.**

<https://petapixel.com/2016/10/18/pitcher-exits-playoff-game-bloody-finger-shows-danger-drones/>

http://www.slate.com/blogs/the_slatest/2016/10/17/drone_injury_for_cleveland_indians_pitcher_forces_him_from_game_with_bleeding.html



Examples of problems/issues

4) 12 drone disasters that show why the FAA hates drones.

- a) Drone crashes near the White House**
- b) Drone "attack" on German Chancellor Angela Merkel**
- c) Drone cuts off tip of photographer's nose**
- d) Drone injures Australian triathlete**
- e) Drone injures bystanders in Virginia crowd**
- f) Drone flies too close to a news helicopter**
- g) Drone nearly crashes into Airbus A320**
- h) Drone caught carrying drugs near the border**
- i) Drone flies over Bank of America Stadium**
- j) Drone flies over Comerica Park**
- k) Drone crashes into Grand Prismatic Spring**
- l) Drone attacked by hawk**

<http://www.techrepublic.com/article/12-drone-disasters-that-show-why-the-faa-hates-drones/>

Lots of potential for problems.





© AirPano / Caters News Agency

Iguasu Falls Argentina

Use of Drones by Insurance Companies

- 1) Underwriting (e.g. - inspection of hard to reach areas, roofs, inside of boiler, agriculture)**
- 2) Claims (e. g. site investigations, flooded areas, towers, high pitched roofs).**
- 3) Cost savings at a minimum in the millions.**



Use of Drones by Insurance Companies

3) As of April of 2015 four insurance companies had received approval to use drones for claims and risk management.

- a) AIG**
- b) Erie Insurance Group**
- c) State Farm**
- d) USAA**

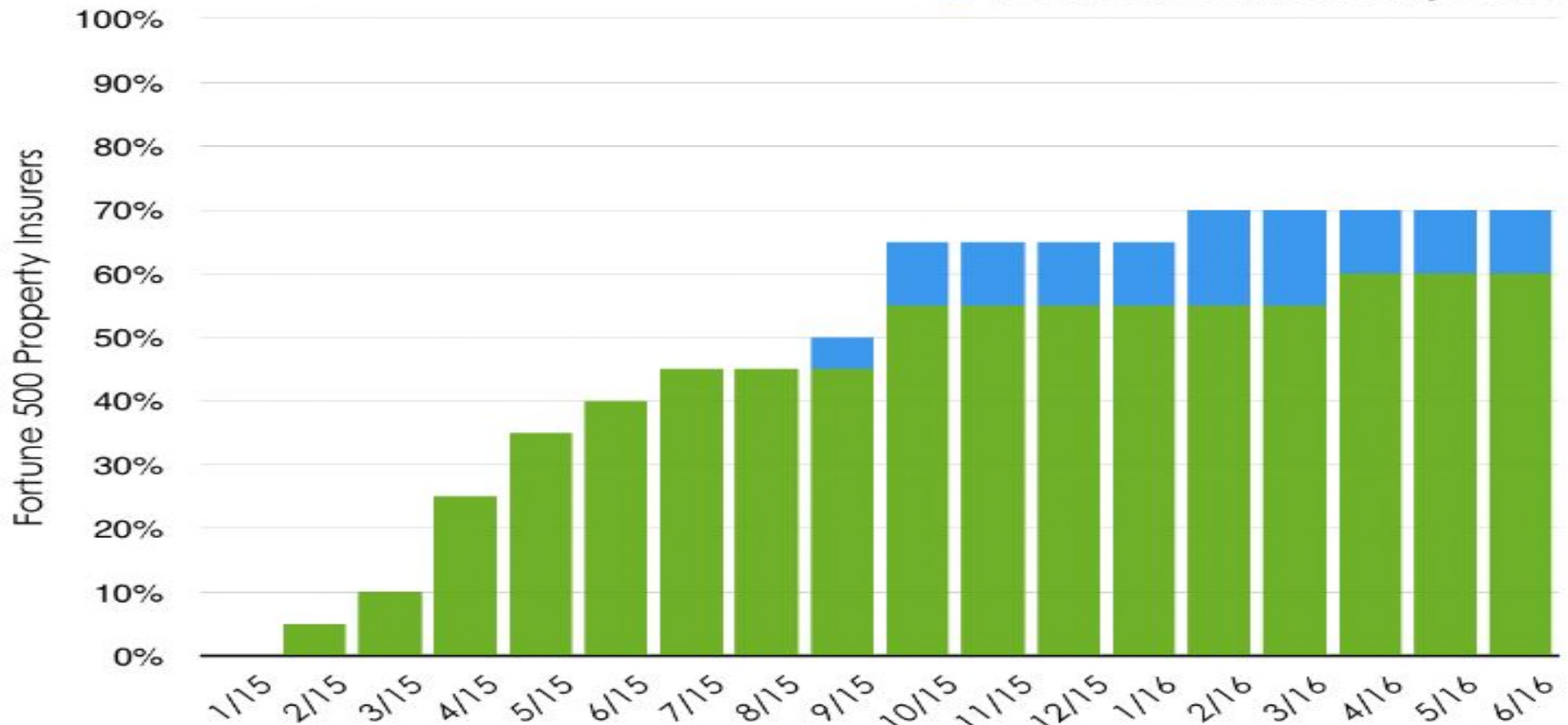
<http://riskandinsurance.com/insurers-flying-high/>



Drone Adoption Rate by Fortune 500 Property Insurers



■ # of Insurers Pending Approval
■ # of Insurers Permitted to Fly Drones



<https://www.cbinsights.com/blog/drone-property-insurance/>

Efficiency Gains Using Drones



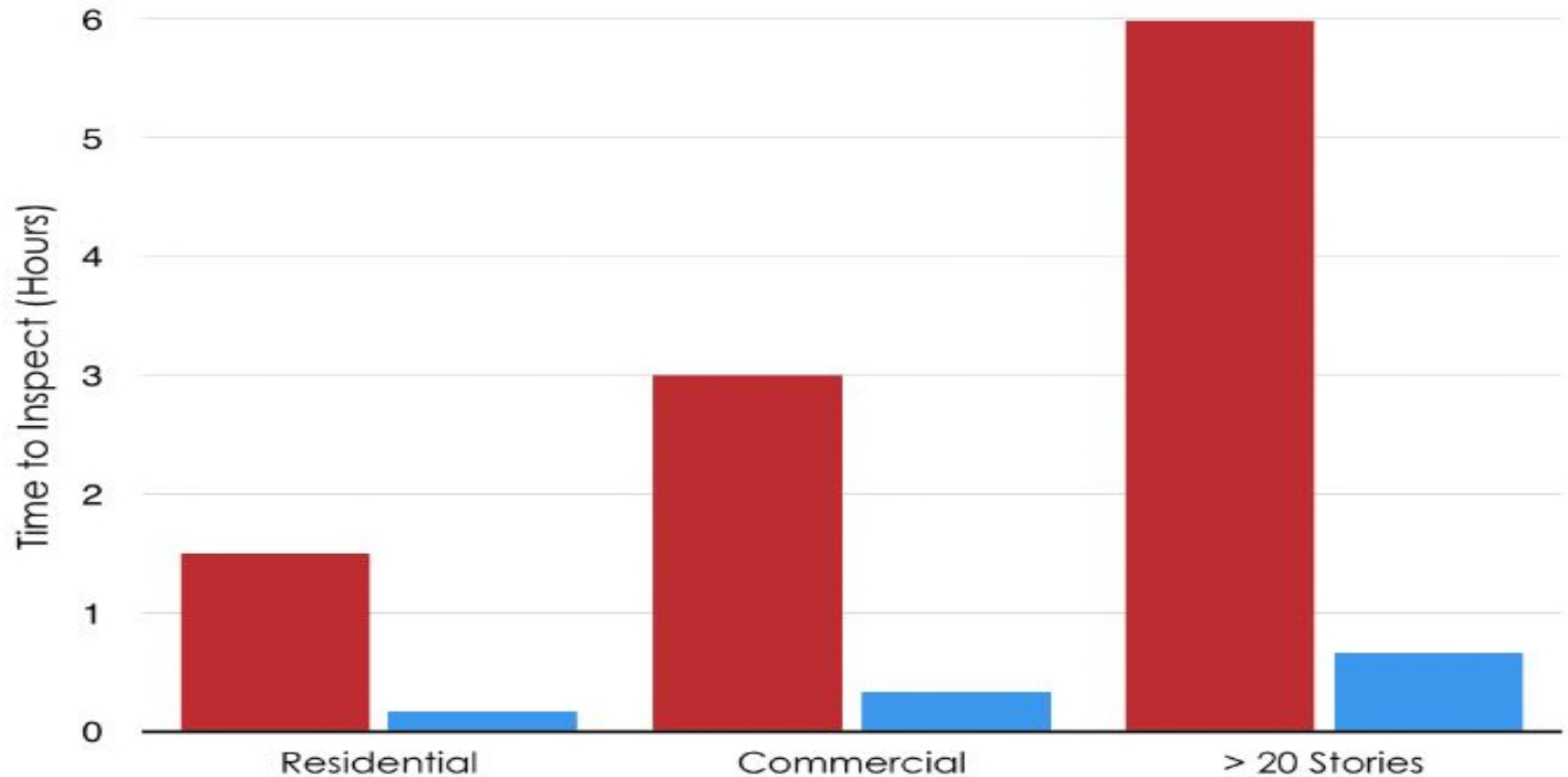
Converge



Manually



Drone



<https://www.cbinsights.com/blog/drone-property-insurance/>

Use of Drones by Insurance Companies

Travelers has a Claims University to train its claims professionals. At the claims university they show how drones can be used to adjust claims.

<http://www.cio.com/article/3084454/it-industry/how-drones-help-insurance-firm-survey-property-damage.html>





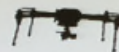
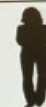
Property Inspection: UAS (Unmanned Aircraft System)




Current



Near
Future



TRAVELERS 







Use of Drones by Insurance Companies

- 1) **Drone footage of roof inspection – <https://www.youtube.com/watch?v=PsEI5a5yJJ8>**
- 2) **Wind Turbine Inspection - https://www.youtube.com/watch?v=5MDUs5vBI_k**
- 3) **Drone Solar Panel Inspection with FLIR - <https://www.youtube.com/watch?v=zfRaq2d0kZg>**
- 4) **MnDOT tests drones for bridge inspections - <https://www.youtube.com/watch?v=a4QcwQZPwcU>**
- 5) **<http://dronelife.com/2017/03/27/drones-revolutionizing-inspections/>**



Use of Drones by Insurance Companies

Recent News Articles

Drones are proving to be a valuable tool for adjusters. Property Casualty 360, March 22, 2016. <http://www.propertycasualty360.com/2016/03/22/drones-are-proving-to-be-a-valuable-tool-for-adjus>

3 Ways Drones Could Change the Insurance Industry - Here's how the insurance industry could save as much as \$6.8 billion per year by using remote-controlled drones. The Motley Fool, September 22, 2016. <https://www.fool.com/investing/2016/09/22/3-ways-drones-will-change-the-insurance-industry.aspx>

Insurance industry sees drones taking claims work to new heights. Marketplace, September 29, 2016. <https://www.marketplace.org/2016/09/27/business/insurance-industry-sees-drones-taking-claims-work-new-heights>





© AirPano / Caters News Agency

Angel Falls in Venezuela

Insurance products regarding the commercial use of drones

- 1) **Types of commercial uses: (Construction companies, Utilities, Real estate agents, Marketing firms, Motion picture industry, etc..)**
- 2) **Separate drone policies v. add on coverage to CGL policy.**
- 3) **Commercial use probably better understanding and managing the risk of drone use.**
- 4) **Coverage for commercial use drone use under typical general liability policies. Probably not. Policy language will determine.**



Unmanned Aircraft Exposures and ISO forms			
Form Number	Form Name	Coverage A	Coverage B
CG 21 09	Exclusion – Unmanned Aircraft	Excluded	Excluded
CG 21 10	Exclusion – Unmanned Aircraft (Coverage A Only)	Excluded	Not applicable
CG 21 11	Exclusion – Unmanned Aircraft (Coverage B Only)	Not applicable	Excluded
CG 24 50	Limited Coverage For Designated Unmanned Aircraft	Excluded except for designated UAS	Excluded except for designated UAS
CG 24 51	Limited Coverage For Designated Unmanned Aircraft (Coverage A Only)	Excluded except for designated UAS	Not applicable
CG 24 52	Limited Coverage For Designated Unmanned Aircraft (Coverage B Only)	Not applicable	Excluded except for designated UAS

Insurance products regarding the commercial use of drones

- 5) AIG has an online application for drone insurance.**
- 6) Insurance options that cover single drone flights and blanket policies to cover periods of time, like an auto insurance policy.**
- 7) Currently, reports of insurance providers insuring commercial drone companies for up to \$500 million in liability and up to \$10 million in hull damage.**



Insurance products regarding the commercial use of drones

- 8) Potential issue - Does commercial coverage match regulations?**
- 9) Specific Drone insurance policies are usually broken up into two parts:**
 - a) Liability (damage and claims to third parties)**
 - b) Hull damage (damage related to your UAV).**



Insurance products regarding the commercial use of drones

- 11) Rates currently range from about \$900 per drone per year on the low end to \$10,000 per drone per year on the high end.**
- 12) A new company, Verifly, provides on-demand policies for personal and commercial users for about \$10 an hour, currently approved in 45 states. The user simply geo-locates through an app. The policy covers a quarter-mile radius for up to \$1 million of third-party liability and unintentional invasion of privacy.**

<http://www.insurancejournal.com/news/national/2016/11/18/432502.htm>



Insurance products regarding the commercial use of drones

13) New 2017 average “ballpark” pricing from one carrier – liability only - does not offer physical damage coverage at this time.

\$1,000,000 UAV Liability Limits – \$750/yr.

\$2,000,000 UAV Liability Limits – \$1,050/yr.

\$3,000,000 UAV Liability Limits – \$1,450/yr.

\$5,000,000 UAV Liability Limits – \$2,050/yr.

<http://uavcoach.com/drone-insurance-guide/>



Insurance products regarding the commercial use of drones

14) List of Drone Insurance Brokers (may not be complete)

Aerial Pak (Hill & Usher)
Avalon Risk Management
Aviation Insurance Resources
Berkley Aviation
Driessen Assuadeuren (Drone-Insurance.com)
Harpenau Insurance Agency
Kinney Pike Insurance
SkySmith
Starr Aviation
SwissRE
UAV Protect
USAIG
XL Catlin

Allianz
Aviation Insurance (Pat Costello)
AVION Insurance
BWI Aviation Insurance
Full Frame Insurance
Houston Casualty
MeadowBrook
Skyvuze
Sutton James Incorporated
Transport Risk Management
Unmanned Risk Management
Verifly



<http://uavcoach.com/drone-insurance-guide/>

Insurance products regarding the commercial use of drones

15) List of Drone Insurance Underwriters (may not be complete)

AIG
Global Aerospace
Lloyds

<http://uavcoach.com/drone-insurance-guide/>





Taj Mahal in India

Insurance products regarding personal use of drones

- 1) **Types of personal use of drones.**
- 2) **Coverage already in place through homeowner's/renter's policy vs. separate drone policies v. add on coverage.**
- 3) **Personal use probably much less understanding and managing the risk of drone use.**
- 4) **Current status of personal insurance for drones is somewhat unclear.**



Insurance products regarding personal use of drones

- 5) A few years ago generally most homeowner's policies will cover use of drones – at least for personal use.**
- 6) This is changing. More and more exclusions being added for use of drones.**
- 7) Now most(?) homeowner's policies will not cover personal or commercial use of drones??? Policy language will determine.**



Insurance products regarding personal use of drones

- 8) If coverage is in place does this cover everything?**
- 9) Invasion of privacy – intentional or unintentional.**
- 10) Some companies will only issue policies for commercial drone use.**
- 11) Anticipated more and more insurance companies will offer drone coverage for personal use.**





Dubai, UAE

Questions?





Neuschwanstein Castle in Germany.

Thank you!

Aaron Simon

Tel: (612) 315-6327

Asimon@brownsonlinnihan.com

