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## Legal and Policy Challenges in the Age of Drone Fever

Technology Law Conference

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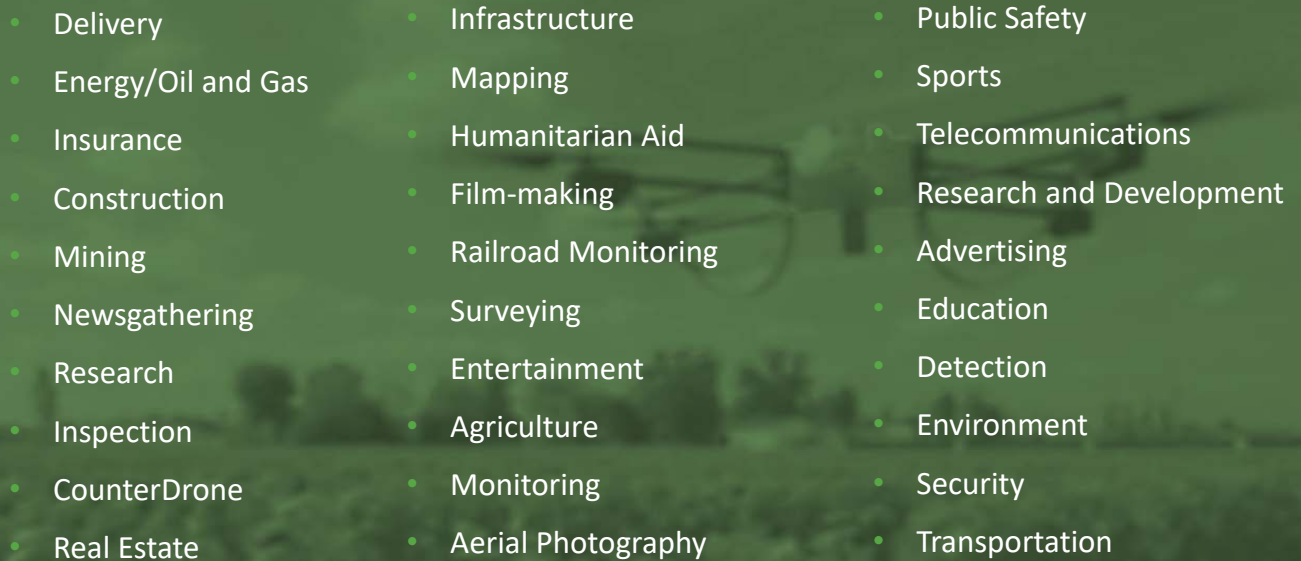


## Topics To Be Covered

- Drone Basics
- Small UAS Rule (Part 107 Summary)
- Part 107 Waivers: Progress Made To-Date
- Making Your Waiver Safety Case
- Trump Administration UAS Integration Pilot Program
- What's Coming Next
- 2017: The Year UAS Revolutionized Disaster Response and Recovery Efforts
- Questions?



# Commercial Drone Applications and Industries

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- Delivery
  - Energy/Oil and Gas
  - Insurance
  - Construction
  - Mining
  - Newsgathering
  - Research
  - Inspection
  - CounterDrone
  - Real Estate
  - Infrastructure
  - Mapping
  - Humanitarian Aid
  - Film-making
  - Railroad Monitoring
  - Surveying
  - Entertainment
  - Agriculture
  - Monitoring
  - Aerial Photography
  - Public Safety
  - Sports
  - Telecommunications
  - Research and Development
  - Advertising
  - Education
  - Detection
  - Environment
  - Security
  - Transportation

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## Why Use a Drone?

- Deliver medical supplies and medicines to assist with catastrophe response
- Assess crop health, detect variations and map terrain
- Provide a birds eye view via topographical map of land, water, fields to reveal slopes, structures, terrain
- Provide high-res digital elevation models of construction sites, mines, structures
- Safely survey cell towers, pipelines, flare stacks, electrical wires, bridges
- Rapid deployment for search and rescue efforts
- Protect critical infrastructure and provide perimeter security for facilities

**ALL ABOUT THE  
DATA, NOT ABOUT  
THE DRONE**

# State of the Industry

## Key Findings

- Goldman Sachs forecasts a **\$100 billion market opportunity** between 2016-2021
  - Consumer + Commercial/Civil = **\$30 billion**
- PricewaterhouseCoopers estimates global market value of UAS-powered solutions at over **\$127 billion**
- Skylark Drone Research reports nearly **1 million drones registered** with the FAA compared to **320,000** registered manned aircraft
  - **~100,000** registered for commercial use
  - FAA estimated **11M** commercial UAS will have been sold in US by 2020
- As of May 9, 2018, there were over **90,000 pilots certified** for commercial drone operations
  - According to FAA, demand for drone pilots could increase to **1.6M** by 2021

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# Drone Security

- “Known” Drone Numbers as of December 31, 2017
  - Over 1.1 million hobbyist drones
  - Double to 2.4 million hobbyist drones over the next 5 years
  - 110,000 commercial drones registered
- National security agencies raised drone security as an important policy issue:
  - Remote ID: Whose drone is that?
  - How to distinguish between legitimate and illegitimate use?
  - How to mitigate potential drone threats?
- June/November 2017: Domestic Drone Security Summits between industry and government
- October 2017: UAS Tracking and ID ARC presented recommendations to FAA; published December 2017
- May 2018: ANPRM under review at OIRA/WH

## *Policymakers worried about:*

- *Careless*
- *Clueless*
- *Criminal*



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