Drones and Insurance: Trends, Challenges, and Public Policy Questions
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Outline

Overview of Drones
  – Definitions and landscape

Drones and Insurance
  – Uses and disruptive technology

Coming Challenges and Changes in the Legal and Regulatory Environment

Environment for Commercial Users

Conclusions
Overview of Drone Use

Drones or unmanned aircraft systems (UAS)

• Rapid growth
  • Over 770,000 consumer drones registered with the FAA as of March 2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Hobbyist Fleet</th>
<th>Total Non-Hobbyist (Commercial) Fleet</th>
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<tbody>
<tr>
<td></td>
<td>Million sUAS Units</td>
<td>Million sUAS Units</td>
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<tr>
<td></td>
<td>Low</td>
<td>Base</td>
</tr>
<tr>
<td>2016</td>
<td>1.10</td>
<td>1.10</td>
</tr>
<tr>
<td>2017</td>
<td>1.94</td>
<td>2.15</td>
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<tr>
<td>2018</td>
<td>2.37</td>
<td>2.80</td>
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<tr>
<td>2019</td>
<td>2.60</td>
<td>3.20</td>
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<tr>
<td>2020</td>
<td>2.69</td>
<td>3.40</td>
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<td>2021</td>
<td>2.75</td>
<td>3.55</td>
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FAA Aerospace Forecast Fiscal Years 2017-2037
Overview of Drone Use

- Major economic impact
- 100,000 new jobs by 2025
- Economic impact of $82 billion (Association for Unmanned Vehicle Systems, 2013)
- Rapid innovation
- Wide variation in use personally and commercially

FAA Aerospace Forecast
Fiscal Years 2017-2037
Drones and Insurance

- Risk Assessment / Underwriting
- Claims
- Catastrophes

Photo from NCSL Website 2018
Drones and Insurance

- **Disruptive Technology**
  - Good things
    - Safety
    - Potential for more data
    - Efficiency
    - Economy
  - Bad things
    - Changes in jobs / procedures
    - Changing legal and regulatory environment
    - Privacy and safety concerns
    - Changing insurance environment

Photo: National Conference of State Legislatures, 2016
Current Legal and Regulatory Environment - Federal

Key Sources

• 2012 FAA Modernization Reform Act (FMRA)
  – Sections 331 and 336

• FAA Enforcement and Proposed Rulemaking
  – Requirements for non-recreational
    • Weigh under 55 pounds
    • Operate only during standard daylight hours and within visual sight
    • Must fly no higher than 500 feet and no faster than 100 mph
    • Operators must be at least 17 and pass the FAA knowledge test
    • Must be registered

• Exemptions under Section 333 of FMRA

From AUVSI Advocacy Website, 2017
Current Legal and Regulatory Environment - State

From NCSL Website

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Current Legal and Regulatory Environment - State

From AUVSI Advocacy Website, 2018 – Includes Autonomous Vehicle Legislation
Environment for Commercial Users

- Wide variety of legislation (including pending)
- Registration requirements
- Large potential for profits balanced with uncertainty
- Who do you use to fly the drones?
- Insurance
  - Variation in terms and definitions
  - New products
Challenges and Changes - Regulatory and Legislative

- Defining drones as technology allows for smaller / stronger / faster drones
- Integration with FAA and traditional aviation
- Safety challenges as drone use increases
- Evolving issues related to privacy and trespassing
- Blurred lines between hobbyist use and commercial use
- Balancing innovation and safety/privacy concerns
Conclusions

- Drones have the potential to transform aspects of insurance and risk management
- Safety and privacy concerns drive many of the legislative questions
- Like all emerging technologies the insurance industry is working to understand risk, create best practices, and develop appropriate coverage and pricing