Meeting the Challenge

Shared Commitment to Safety

Innovation + Collaboration

Industry Volume & Pace

Personal Nature of UAS
The Path to Full Integration

Airspace Access

Full UAS Integration

NAS System Integration

Small Cargo / Passenger Operations

Aeronautical Information Infrastructure for UAS

Non-Segregated Operations

Low Altitude Authorization & Notification Capability (LAANC)

Expanded Operations

Online Registration

Rulemaking to Address Security Concerns

Part 107 Operations

UAS Operations Over People

Operations by Exemption

Regulatory Framework

Low-risk, Isolated

Large UAS / high energy output

Small UAS / low energy output

Within VLOS / isolated operating area

Beyond VLOS / populated operating area
Authorizing Small UAS Operations (Part 107)

- Rule took effect on August 29, 2016
- UAS must weigh less than 55 lbs. and be registered
- Operator must obtain a Remote Pilot Certificate
- Visual line-of-sight operations during daylight, 400 feet or below or within 400’ of a structure
- External load operations permitted if the load does not affect flight operations or control
- Must yield right-of-way to manned aircraft
- No operations over people
UAS By the Numbers

Total Remote Pilot Certificates Issued: 59,952
Total Knowledge Exams Passed: 41,641
Knowledge Exam Success Rate: 92%

Top 5 Waiver Requests

<table>
<thead>
<tr>
<th>Operation</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Night Operations</td>
<td>70%</td>
</tr>
<tr>
<td>Operations over People</td>
<td>32%</td>
</tr>
<tr>
<td>BVLOS Operations</td>
<td>17%</td>
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<tr>
<td>Operational Limitation: Altitude</td>
<td>10%</td>
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<tr>
<td>Operations from a Moving Vehicle</td>
<td>8%</td>
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Airspace Waivers/ Authorizations Approved

<table>
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<tr>
<th>Class</th>
<th>Approved</th>
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<tbody>
<tr>
<td>Class B</td>
<td>989</td>
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<tr>
<td>Class C</td>
<td>1,506</td>
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<tr>
<td>Class D</td>
<td>4,072</td>
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<tr>
<td>Class E</td>
<td>708</td>
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<tr>
<td>TOTAL</td>
<td>7,275</td>
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</tbody>
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UAS Registrations

- Class E: 816,736
- Class D: 4,072
- Class C: 79,752
- Class B: 6,715

Total: 903,203
Next Steps
FAA 2017 UAS Priorities

- Address Security Concerns
- Automate Systems
- Continue Expanding Operations
Expanding UAS Operations

3 Focus Area Pathfinders are informing more advanced operational concepts:

1. **CNN**
   - Visual line-of-sight (VLOS) operations over people

2. **Precision Hawk**
   - Extended visual line-of-sight (EVLOS) operations in rural areas

3. **BNSF Railways**
   - Beyond visual line-of-sight (BVLOS) operations in rural areas
Near Term Challenges

- The FAA is developing an IT gateway – a one-stop shop for all things UAS
  - This will support streamlined waiver and authorization requests for Part 107 operations, UAS registrations, report accidents, and more
- Airspace authorization requests are evaluated manually, and keeping up with the number of requests is challenging
  - The development of the Low Altitude Authorization and Notification Capability (LAANC) will allow for automated authorizations – for both hobby operators and Part 107 remote pilots
Low Altitude Notification & Authorization Capability (LAANC)

Goals
- Enable efficient Part 101/107 notification and authorization services to small UAS operators
- Provide the data exchange framework for UAS traffic management (UTM)
Managing Airspace Access – UTM

**Air Traffic Management System**
- Established policies & procedures

**UAS Traffic Management System**
- Cooperative interaction
Security, Collaboration, and Outreach Initiatives
UAS Detection Initiative

- The FAA partners with DHS, other government agencies, UAS Test Sites, and UAS Center of Excellence to evaluate UAS sensor detection systems at airports

- Industry Partners include:
Collaboration

Moving Forward Together

Drone Advisory Committee

UAS Test Sites

UAS Center of Excellence

Focus Area Pathfinders

Unmanned Aircraft Safety Team

Aviation Rulemaking Committees

Partnership for Safety Plans

Federal Aviation Administration
International Council of the Aeronautical Sciences
12 September 2017
www.faa.gov/uas
Education and Outreach

I FLY SAFE

All drones are aircraft—even the ones at the toy store. So when I fly a drone I am a pilot. Before I fly I always go through my pre-flight check list. I regularly check the safety guidelines at faa.gov/uas

FLY SMART, FLY SAFE, AND HAVE FUN!

PRE-FLIGHT CHECKLIST

1. I fly below 400 feet
2. I always fly within visual line of sight
3. I’m aware of FAA airspace requirements: faa.gov/airport
4. I never fly over groups of people
5. I never fly over stadiums and sports events
6. I never fly within 5 miles of an airport without first contacting air traffic control and airport authorities
7. I never fly near emergency response efforts such as fires
8. I never fly near other aircraft
9. I never fly under the influence

knowbeforeyoufly.org
faa.gov/uas

Federal Aviation Administration
Questions?

www.faa.gov/uas