FAA UAS Approvals and Path to Full UAS Integration

Presented to: SAE G-34, Artificial Intelligence in Aviation

Presented by: Ritesh Ghimire
Engineer, AUS-420
FAA Lead on All SAE UAS Activities
Custodian of ANSI Roadmap on FAA’s behalf
FAA UAS Integration Office

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Overview:

1) Types of UAS Operations

2) FAA UAS Traffic Mgmt. (UTM)

3) Integration Challenges (Regulatory & Technological) – Air Traffic Mgmt. (ATM) / UTM

4) UAS Integration Strategy - 2019

5) Harmonization of UAS Integration Efforts
## Types of UAS Operations

<table>
<thead>
<tr>
<th>Aircraft Requirements</th>
<th>Pilot Requirements</th>
<th>Airspace Requirements</th>
<th>Types of Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part 107</strong></td>
<td>UAS &lt; 55 lbs.</td>
<td><strong>Part 107</strong> remote pilot certificate with small UAS rating</td>
<td><strong>Airspace waiver or authorization</strong> for Class B, C, D, E airspace</td>
</tr>
<tr>
<td><strong>Section 333 (now §44807)</strong></td>
<td>As specified in exemption</td>
<td><strong>Part 61</strong> airman certificate</td>
<td>Blanket COA or Standard COA for specific airspace</td>
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<tr>
<td><strong>Experimental Aircraft</strong></td>
<td>Experimental Special Airworthiness Certificate</td>
<td><strong>Part 61</strong> airman certificate</td>
<td>Standard COA for specific airspace</td>
</tr>
<tr>
<td><strong>Type Certificated Aircraft</strong></td>
<td>Restricted type or special class certification</td>
<td><strong>Part 61</strong> airman certificate</td>
<td><strong>Part 91</strong> airspace requirements</td>
</tr>
<tr>
<td><strong>Public Aircraft</strong></td>
<td>Self-certification by public agency</td>
<td>Self-certification by public agency</td>
<td>Blanket COA or Standard COA for specific airspace</td>
</tr>
<tr>
<td><strong>Section 336 Model Aircraft</strong></td>
<td>UAS &lt; 55 lbs.*</td>
<td>Community-based organization (CBO) standards</td>
<td>Notification requirement within 5 miles of an airport</td>
</tr>
</tbody>
</table>

*Note: All UAS greater than 0.55 pounds aircraft must be registered (see **part 47** and **part 48** requirements).**

*******Updates*******

- Model Aircraft operations
  - Superseded by FAA Reauthorization Act of 2018 (FAARA 2018; P.L. 115-254)
  - Interpretative Rule for Section 336 – In process to be withdrawn
FAA UAS Traffic Management

Suite of Capabilities:
- LAANC
- Remote ID
- Registration
- Dynamic Airspace

UTM
UAS Data Exchange (LAANC)

Govt.-Industry Partnership for Low Altitude Authorization and Notification Capability (LAANC)

Industry Partners are UAS Service Suppliers (USS)

LAANC provides:
- Drone pilots with access to controlled airspace at or below 400 ft.
- Air Traffic Professionals with visibility into where and when UAS/drones are operating

Approved LAANC UAS Service Suppliers (USS)
[ref. https://www.faa.gov/uas/programs_partnerships/data_exchange/]
Integration Challenges (Regulatory & Technological) – ATM / UTM

ATM
Established policies & procedures

UTM
Cooperative interaction
UAS Integration Strategy – 2019

Airspace Management

- Low Altitude Authorization & Notification Capability (LAANC)
- Remote ID Network
- USS-USS Communication
- Aeronautical Information Infrastructure for sUAS
- ATM – ACAS-Xu based DAA
- ATM – NAS System Integration
- ATC Order – No ATC Services below 400 Ft AGL
- Part 137 Certifications
- Part 107 Operations (with Part 107 Waivers)
- Section 333 Operations (now Section 44807)
- UAS Integration Pilot Program
- Partnership for Safety Plan Operations
- UAS Flight Restrictions & Remote ID
- UAS Operations Over People
- UAS Designees/ODAs
- Automated Flight Deck for Transport
- Urban Air Mobility
- Cargo Operations
- Consistent Airspace Rule Applicability
- Full UAS Integration

Level of Autonomy

Building the Foundation

Federal Aviation Administration
www.faa.gov/uas
Harmonization of UAS Integration Efforts

**ANSI UASSC Roadmap**
[Developed by ANSI/Industry (contains Recommendations, Gaps, Ref., etc.)]

**SDOs are encouraged to address** ANSI Roadmap Gaps by revising existing Stds. or writing new Stds.

**FAA Rules, Guidance, Policies**

**FAA Certification/Approval ==>**

Show Compliance & Find Compliance
(using Accepted Industry Stds., FAA Regs, ACs, etc.)
Questions?

Ritesh Ghimire
- Engineer, AUS-420 Technical Support Branch
- FAA Lead on All SAE UAS Activities
- Custodian of ANSI UASSC Roadmap on FAA’s behalf

FAA UAS Integration Office
ritesh.ghimire@faa.gov