Future of Urban Air Mobility

Moderator: Jared Esselman
James Herrera | Parimal Kopardekar
Chris Metts | Ken Stewart
Urban Air Mobility

Panel Discussion

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By: Jim Herrera, AUS-430
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UAM Excitement!

70+ manufacturers worldwide including Boeing, Airbus and Bell Helicopters
Over $1 billion investment made as of September 2018
High profile events organized around the world in 2019 e.g. Uber Elevate (1200+ attendance, 10k+ online participants), Washington D.C. gathering, Secretary, Administrator (Acting) & AUS-1, etc.

Source: NASA Air Mobility Study, Oct, 2018; Booz Allen & Hamilton
Federal Aviation Administration

Mature State UAM

**Aircraft**
- Ubiquitous UAM Operations with System-Wide Automated Optimization
  - 10,000s of simultaneous operations (capacity limited by physical infrastructure); ad hoc landing sites; noise compatible with suburban/rural operations; private ownership & operation models enabled; societal expectation

**Airspace**
- High Density and Complexity Operations with Highly-Integrated Automated Networks
  - 1,000s of simultaneous operations; high-volume manufacturing; large-scale, highly-distributed networks; high-density UTM inspired ATM; autonomous aircraft and remote, M/N fleet management; high-weather tolerance including icing;

**Operations**
- Medium Density and Complexity Operations with Collaborative and Responsible Automated Systems
  - 100s of simultaneous operations; expanded networks including high-capacity UAM ports; many UTM inspired ATM services available, simplified vehicle operations; low-visibility operations; Infrastructure expansions and scalability

**Infrastructure**
- Low Density, Medium Complexity Operations with Comprehensive Safety Assurance Automation
  - Operations into urban core; operational validation of airspace, UTM Inspired ATM, CNS, C2, and automation for scalable, weather-tolerant operations; closely space UAM pads, ports; noise compatible with urban soundscape; community engagement with infrastructure rollout

**Community**
- Low Density and Complexity Commercial Operations with Assistive Automation
  - Type certified aircraft; Initial Part 135 operation approvals; limited markets with favorable weather and regulation; small UAM network serving urban periphery; UTM Construct and UAM corridors supporting self-managed operations through controlled airspace; permissive communities

- Late-Stage Certification Testing and Operational Demonstrations in Limited Environments
  - Aircraft certification testing and operational evaluations with conforming prototypes; procedural and technology innovation supporting future airspace operations (e.g., UTM-Inspired); contemporary operational constructs; community/market demonstrations and data collection

FAA Regulatory Framework and Barriers
Safety Continuum Provides a Conceptual Framework for Certification Requirements
Questions?

James Herrera
Federal Aviation Administration
Office of Unmanned Aircraft Systems Integration (AUS)
Safety and Operations Branch (AUS-430)
Email: James.herrera@faa.gov
Phone: (202) 267-9332