Accelerate advanced air mobility through collaboration

AAM Ecosystem Working Groups

**Expected Outcomes**

- Recognize and address near-term needs to kick-start AAM/UAM
- Research needs for scalable AAM towards maturity level-4
- Identify partnership opportunities with NASA projects including National Campaign
- Foster collaborations among each other
- Generate data and information for standards bodies
- Collectively address pre-competitive considerations (e.g., protocols, safety analysis)
- Develop AAM system architectures, book of requirements and guidelines, and scorecard
Current Ecosystem Working Group (WG) Execution Plans

- **Initial Working Groups**: Aircraft, Airspace, Community Integration, Crosscutting
  - Subgroups to be defined by member interests
    - E.g., Crosscutting subgroups for National Campaign and ConOps
- **Leadership and Membership**
  - Each WG has Co-leads: NASA and group-elected other
  - Individuals self-select the WG(s) they wish to participate in
    - Crosscutting WG includes all who sign up for any group
- **Meeting Cadence**
  - Main WG meeting (for each WG) once per month to once per quarter
    - Subgroup meetings and other interactions occur between meetings
    - Anticipate beginning this schedule in April or May for each group
  - Two face-to-face meetings per year (nominally)
    - 2020 tentative: July 7-9 and Sept UAM Convention

**WGs will be flexible to fit the needs of the AAM ecosystem**
Ecosystem WG Collaboration Tools

• Suite of virtual collaboration tools essential to work across many organizations, individuals, and time zones

• Assessing options for virtual meetings, document archiving/editing, and between-meeting discussions

• Developing a “portal” at NARI website for quick access to all WG tools, info from previous meetings, etc.
Design, development, and implementation of infrastructure to enable safe and efficient multi-vehicle UAM operations

Societal integration and acceptance of UAM operations

Operations and management of multiple vehicles within a UAM system that enable safe and efficient sharing of airspace and other system resources

Design, manufacture, and system readiness of UAM vehicles

Operations and maintenance of a single UAM vehicle, independent of the sharing of airspace or other system resources
Framework and Barriers

1. Airspace Design
2. Operational Rules, Roles, & Procedures
3. CNSI & Control Facility Infrastructure
4. UAM Port Design

1. Public Acceptance
2. Supporting Infrastructure
3. Operational Integration
4. Local Regulatory Environment & Liability

1. Safe Urban Flight Management
2. Increasingly Automated Vehicle Operations
3. Certification & Ops Approval
4. Ground Ops & Maintenance

1. Vehicle Design & Integration
2. Airworthiness Standards & Certification
3. Vehicle Noise
4. Weather-Tolerant Vehicles
5. Cabin Acceptability
6. Manufacturing & Supply Chain

1. Safe Airspace Ops
2. Efficient Airspace Ops
3. Scalable Airspace Ops
4. Resilient Airspace Ops
5. Fleet Management
6. Urban Weather Prediction

Community Integration

Airspace System Design & Implementation

Vehicle Development & Production

Individual Vehicle Management & Operations

Airspace & Fleet Operations Management

Safety
Security
Affordability
Noise
Autonomy
UAM Ports
Regulations/Certification