AAM Ecosystem Community Integration Working Group: Supplemental Data Service Providers (SDSP)
## Agenda

**December 3, 2020**  
*3:30pm - 5:00pm ET*

**Welcome**  
- **Time (ET):** 3:30PM - 3:35PM  
- **Speaker:** Nancy Mendonca, NASA  
- **Description:** Welcome attendees, review the agenda, and introduce the speakers

**UTM Brief**  
- **Time (ET):** 3:35PM – 3:50PM  
- **Speaker:** Marcus Johnson, NASA  
- **Description:** Share SDSP lessons learned from the UTM ConOps

**ATM-X Brief**  
- **Time (ET):** 3:50PM – 4:05PM  
- **Speaker:** Ian Levitt, NASA  
- **Description:** Provide an overview of weather impacts to airspace services and SDSP, and current gaps in UAM research, development, test, & evaluation

**AiRXOS Brief**  
- **Time (ET):** 4:05PM – 4:20PM  
- **Speaker:** Edward Lester, AiRXOS  
- **Description:** Review SDSP and USS interactions in the UTM environment

**Discussion**  
- **Time (ET):** 4:20PM – 4:50PM  
- **Speaker:** All the Above  
- **Description:** Discussion with speakers and Active Participants regarding SDSP efforts  
  - If time permits or at the facilitator’s discretion, we will take questions from the Listen Only Participants through Conferences.io

**Closing Remarks**  
- **Time (ET):** 4:50PM – 5:00PM  
- **Speaker:** Nancy Mendonca, NASA  
- **Description:** Offer a high-level recap of the feedback session and share the Community Integration Working Group next steps
Platforms and Discussion

• **Active Participants**
  – Platform: MS Teams
  – Discussion: MS Teams microphone, chat, and “Raise your hand” functions
    • Leave your cameras/webcams off to preserve WiFi bandwidth
    • Use your mute/unmute button (e.g. remain on mute unless you are speaking)
    • Enter comments/questions in the chat
    • Click the “Raise your hand” button if you wish to speak
    • Say your name and affiliation before you begin speaking

• **Listen Only Participants**
  – Platform: YouTube Live Stream
    • Go to the [https://nari.arc.nasa.gov/aam-portal/](https://nari.arc.nasa.gov/aam-portal/) for the link
  – Discussion: Conferences.io
    • Enter [https://arc.cnf.io/sessions/yhpw/#!/dashboard](https://arc.cnf.io/sessions/yhpw/#!/dashboard) into your browser
    • Questions will be addressed *if times permits or at the facilitator’s discretion*
Aviation Urban Weather Test Data Ecosystem

Urban Infrastructure Weather Living Lab(s)

- Generate data to answer policy & research questions
- Test Sensors
- Test data collection architectures and communication paths
- Determine Data sufficiency

Local & AAM Communities
(Not just weather data for aviation)

Raw weather data

Urban Weather Models

- FAA
- ASTM F38

Airspace Simulation Models

Weather informed Decision Support Tools

NASA (ATM-X)
Private Sector

Weather Products

NWS

Local Data Users
(e.g. public safety)

Local & AAM Communities

AAM Aviation Weather Data

Weather Data Performance Standards

Data “quality” checks

FAA
ASTM F38

Weather Data Interface Standards

Common Data Formats

FAA
ASTM F38

“Common” Weather Data

Processed

Real-time

Test sets

SDSP Standards
FAA
ASTM F38

Weather SDSPs

Value added services
Decision support tools

NASA SBIR
Private Sector

NASA (RVLT)
Private Sector

3rd Party Services
Private Sector

 Operations
 Value added services

PSUs
Vehicle & Vertiport Operators

Performance Modeling
Ride Quality

Vehicle Design

Weather Simulation Testbeds

Simulate local weather conditions

Weather Data

Interface Standards

NASA (ATM-X)
Private Sector

Weather Informing
Decision Support Tools

NASA Weather Policy

Aviation Weather Policy

Research Standards

“Weather Flight” Standards

FAA

Private Sector

Urban Weather Models

NWS

Private Sector
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<tr>
<th>Category</th>
<th>UML-1</th>
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<th>UML-3</th>
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<td><strong>Airspace</strong></td>
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<td>Operating Policies and Regulations (4.3.6.1)</td>
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<td>ConOps</td>
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<td>CNSI – data networks (4.3.6.3)</td>
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<td>Data Interface Standard</td>
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<td>- Weather data securely transmitted</td>
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<td>Weather models and tools (4.3.6.4)</td>
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<td>- Models can accurately describe current and forecast future urban weather</td>
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<td>Supplementary Data Service Providers (4.3.6.5)</td>
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<td>- Multiple SDSPs are operational</td>
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<td>- Decision Support Tools incorporate weather</td>
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<td>Vehicle Design (4.4.4)</td>
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<td><strong>Community</strong></td>
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<td>Weather sensing Infrastructure (4.3.6.2)</td>
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<td>- Urban weather data is collected at the appropriate resolution and frequency</td>
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Presentations & Discussion
NASA AAM Weather SBIR 2021 Solicitation

• Due January 8th, 2021
• Selections announced March 18th, 2021
• https://sbir.nasa.gov/solicitations
• Chapter 9 – Research Topics
  • Aeronautics Research Mission Directorate
  • A2.03 Advanced Air Mobility – AAM Community Integration – Weather Infrastructure Testbed  https://sbir.nasa.gov/solicit/66886/detail?data=ch9
The Community Integration Working Group will hold their meetings on the first Thursday of every month from 3:30PM -5:00PM EDT (12:30PM -2:00PM PDT).

• Jan 7, 2021: Topic: Weather Policy and Regulations
• Feb 4, 2021: Topic: Vertiport Series Kickoff

POCs: Nancy Mendonca: nancy.mendonca@nasa.gov & Anna Cavolowsky: anna.e.cavolowsky@nasa.gov
Upcoming AAM Ecosystem WG Meetings

• Aircraft Working Group: Human Factors
  – **DATE:** Thursday, December 17, 2020
  – **TIME:** 3:00PM -4:30PM ET (12:00PM -1:30PM PT)

**NOTE:** The Airspace and Crosscutting Working Groups are **NOT** holding meetings during December 2020.
Speaker Biographies
Nancy Mendonca, is currently the NASA Deputy in ARMD’s Mission Integration Office (AMIO). The AMIO integrates ARMD’s AAM efforts across the four ARMD Programs and with the AAM community. She served 24 years in the Navy flying H-46 helicopters. Between the Navy and NASA she worked at the Missile Defense Agency, on the Marine Corps MRAP Program and at NTIA working on the Federal Strategic Spectrum Plan. She graduated from the U.S. Naval Academy with a B.S. in Aeronautical Engineering and subsequently earned M.S. degrees in Aeronautical Engineering and National Security and Strategic Studies. She is also a Certified Public Accountant and has currently prioritized rescuing Great Danes and riding horses over flying helicopters.
Dr. Marcus Johnson is currently Subproject Manager for the High Density Vertiplex Subproject under the NASA Advanced Air Mobility (AAM) Project. He has also served as a Deputy Lead for the AAM National Campaign and a Deputy Project Manager for the Unmanned Aircraft System (UAS) Traffic Management (UTM) Project at the NASA Ames Research Center. He holds a doctorate in Aerospace Engineering from the University of Florida and his research interests focus on intelligent systems in aerospace applications and the integration of novel and new aircraft into the national airspace.
Dr. Ian Levitt is NASA's Principal Engineer for the ATM-X Urban Air Mobility Airspace subproject. Currently based out of Langley Research Center in Hampton, VA, he was previously a mathematician with the Federal Aviation Administration at the William J Hughes Technical Center in Atlantic City, NJ. His interests are in the area of integrated Research, Development, Test, & Evaluation, with a focus on the mission to identify clear pathways for aviation research to transition into production and ultimately operationalization.
Edward “Ted” Lester directs the technology roadmap, leads research projects, and manages external UTM-related partnerships at AiRXOS. He also engages with standards committees, including ASTM F38 UTM-related working groups and the RTCA SC-228 Detect and Avoid working group. Prior to AiRXOS, Ted worked on UAS airspace integration for the USAF and FAA at MITRE Corporation. Ted also worked as a systems engineer and avionics product manager at Avidyne Corporation. He holds a B.A. from Middlebury College and an S.M. from MIT. Ted is an avid cyclist, skier, FAA CFII and Part 107 pilot, and part owner of two Cessna airplanes.