



## FAA ATO Space Industry Day Executive Summary

**What:** From June 27-28, the FAA Air Traffic Organization (ATO) System Operations held a Space Industry Day event meeting at Space Florida, Merritt Island, FL, and a space immersion tour at Cape Canaveral. Utilizing the Collaborative Decision Making (CDM) approach, this was a joint meeting between the Aviation and Space Industries along with FAA ATO leaders working with Space Operations.

**Why:** To bring together aviation and space industry members collaboratively to provide information exchange on current and growing space operations.

**Who:** Senior leaders and executive aviation operators participating in the FAA ATO CDM program took part, including: **American Airlines, Delta Air Lines, FedEx, JetBlue, Southwest Airlines, Spirit Airlines, United Airlines, and United Parcel Service (UPS).**

Senior leaders and executives from space launch/reentry operators participating in the FAA ATO Space Collaborative Decision Making (SpCDM) program took part, including: **ABL Space Systems, Blue Origin, Boeing, Relativity Space, Rocket Lab USA, Sierra Space, Space Perspective, SpaceX, Stoke Space, and the United Launch Alliance (ULA),**

The president of the **Commercial Spaceflight Federation** participated as well the aviation associations **Airlines for America (A4A)** and the **National Business Aviation Association (NBAA).**

**NASA** and the **U.S. Space Force** are interagency partners in the FAA ATO SpCDM and took part. The FAA participants included the **Office of Commercial Space Transportation (AST), National Air Traffic Controllers Association (NATCA),** and various offices from the **ATO,** including: **System Operations (AJR), Mission Support Services (AJV), Air Traffic Services (AJT),** and the **Office of Communications (AOC).**

**Immersion:** In addition to the meeting at **Space Florida,** on June 27<sup>th</sup> there was an immersion tour provided for the Aviation Industry partners. It included site visits with **NASA, SpaceX, Blue Origin, and United Launch Alliance. Space Florida** was a lead coordinator, and **NASA** provided significant support. The purpose was to provide domain awareness for aviation and FAA partners.

**POC:** Elizabeth McGovern Assink, Program Manager – SpCDM (AJR-1800) [SpID@FAA.GOV](mailto:SpID@FAA.GOV)

**Core agenda:** The meeting focused on information exchange and included topics such as:

<u>Topic</u>	<u>Presenter(s)</u>	
<b>FAA Welcome</b>	Alyce Hood-Fleming Vice President System Operations	
<b>FAA Leadership Addresses</b>	Timothy Arel Chief Operating Officer FAA Air Traffic Organization (ATO)	Kelvin Coleman Associate Administrator FAA Office of Commercial Space Transportation
<b>Briefing: Notice of Updated Factors for Optimizing Use of the National Airspace System</b>	Alyce Hood-Fleming Vice President System Operations Services	
<b>FAA ATO Space Operations Integration Efforts</b>	Duane Freer Group Manager FAA ATO Space Operations	
<b>Collaborative Decision Making Highlights</b>	Duane Freer Group Manager FAA ATO Space Operations	Vern Payne Manager FAA Collaborative Decision Making and International Operations
<b>Panel: Industry Perspective</b>	<i>Moderator:</i> LaKisha Price Director, National Airspace System Operations FAA ATO System Operations	
	<i>Panelists:</i> Patrick Butler Director, Mission Execution Florida Launch Operations Blue Origin	Duane Freer Group Manager FAA ATO Space Operations
	Rob Goldman Senior Manager Air Traffic Management and Industry Affairs Delta Air Lines	Paul Litke Director Surface Operations, Network Operations, ATS United Airlines
	Vern Payne Manager FAA Collaborative Decision Making and International Operations	Mike Lapidus Director Government Affairs SpaceX

*"We are here because we have a shared purpose - airspace integration."  
- Alyce Hood-Fleming, FAA ATO System Operations*

## Common Purpose

The safe and efficient integration of space launch and reentry operations into the National Airspace System (NAS) is a priority of the Federal Aviation Administration and Air Traffic Organization (ATO). Collaboration and stakeholder engagement across the aerospace sector are key components of NAS integration.

Considering that, ATO System Operations led the *FAA ATO Space Industry Day* in Cape Canaveral, Florida, June 27-28, 2023. The event brought together both the aviation and space communities to collaborate with the ATO on space launch and reentry operations.

There were 50 participants, including eight aviation and 10 space industry corporations. Four associations/trade organizations, and three Federal Agencies took part including, FAA, NASA, and the U.S. Space Force. The meeting was held at Space Florida offices in Exploration Park at Cape Canaveral. Space Florida is a local government entity with a mission to 'maximize capacity and capability of Florida's Spaceport System.'

## Core Discussions

**Growth in the NAS:** There were briefs, conversations, and discussions around the increased cadence of space launch and reentry, as well as changing patterns and increase in commercial aviation traffic. The FAA COO reminded the group that things are moving at an incredible rate. The Associate Administrator for the Office of Commercial Space shared that it will be a record-breaking year.

**Focus on airspace integration:** Throughout the FAA ATO Space Industry Day, airspace integration was a common focus highlighted during the Aviation and Space CDM leadership-led industry panel. The panelists stressed the importance of supporting ongoing, collaborative dialogue around airspace integration between the the aviation industry, space industry, government, and other key space stakeholders.

**Data and information exchange:** The event featured briefs on FAA ATO Space Operations and the Aviation and Space CDMs, which served as a platform for an information exchange between attendees. Data and information were cited as essential components to provide air traffic controllers with real-time information for effective decision-making in the Air Traffic Management environment. Supporting this effort is a recent task for a CDM work group to explore data metrics and information sharing, which aims to inform both Aviation and Space Operations. There was significant discussion around the need for automation tools and real-time launch and reentry data to support efforts, such as the [Space Data Integrator \(SDI\)](#). Real-time data exchange is the foundation for safe, efficient, and flexible access to space and optimal use of the NAS for all users.

**Integration efforts:** The ATO Space Operations Manager, Duane Freer briefed the current efforts in detail. This included (but not limited to) how the scrubs by mission have dropped dramatically, the average launch block has been reduced by half and efforts such as the 'hotline' have made this occur. The increase of real-time situations awareness and direct collaboration with the space industry have made this occur along with identifying critical

decision windows (CDW). He reminded the group that shrinking the hazard areas, through fine-tuning risk analysis, is key to making this happen. The group reviewed the new half clamshell that opened up as an exemplary effort.

Additional integration efforts were discussed on adopting applicable CDM process and procedures. Mr. Freer shared how they are working on a portal calendar that will share key operational information for decision makers. He shared that these are often multi-year efforts, but automation is key when possible.

**Industry panel:** The industry panel, including all the FAA ATO CDM and Space CDM program co-chairs, talked about thinking collectively. They shared orbital mechanics and other operational challenges that impact schedules - overall the environment of highly constrained optimization. They all stressed the need for collaboration, including information sharing, education, and cooperation.

**Collaboration:** Engagement was first identified During the kick-off with Vice President Alyce Hood-Fleming. The subsequent day's conversation also encouraged a collaborative environment and working together for both industries. Statements were made on the importance to continue the conversation of what airspace integration looks like now and in the future. This was also echoed during the unified Agency leadership addresses of ATO and AST.

**Additional notable discussions/information**

- Space Florida shared that a need exists for collaboration with maritime interests and to remain a global leader..
- Space Operations were identified as essential to National Security as Space becomes a new military domain.
- An example of an information sharing opportunity was provided by the Southwest Airlines representative. Southwest used for their pilots was shared and the opportunity to partner on more educational. A site was also created for the participants to receive the information shared during the program.

<https://tfmlearning.faa.gov/SpaceIndustryDay.html>



*Before/After of new agreement with the Space Force on TFR at Cape Canaveral opening in some situations AR's 6 & 15 to Orlando and Tampa*



## FAA ATO Space Industry Day Industry and Government Participants

June 28, 2023  
Space Florida

Organization	Last	First	Title
Airlines for America (A4A)	Cebula	Andy	Vice President, Air Traffic Management & Operations
American Airlines	Pressley	Scott	Manager, Air Traffic Management and Airfield Operations S.E.
Delta Air Lines	Goldman	Rob	FAA ATO Aviation CDM Co-Lead Sr. Manager Air Traffic Management & Industry Affairs
Delta Air Lines	Tuck	Bill	General Manager, OCC Air Traffic Management
FedEx	Santos	Phil	Senior Manager, Air Traffic Operations
JetBlue	Lloyd	Tom	Director, System Operations Strategy and Continuous Improvement
JetBlue	Russell	Sally	Manager, Air Traffic Systems & Meteorology
National Business Aviation Association (NBAA)	Snell	Dean	Manager, Air Traffic Services
Southwest Airlines	Dalton	Rick	Managing Director Airspace & Air Traffic Management
Spirit Airlines	Christopher	Gregory	Vice President, Operations Control Center (OCC)
Spirit Airlines	Raza	Ali	Senior Director, Operations Control Center (OCC) Operations
United Airlines	Litke	Paul	FAA ATO Aviation CDM Co-Lead Director, Surface Operations, Network Operations, ATS
United Parcel Service (UPS)	Davis	Adam	Manager, Air Traffic Systems, Fueling Analytics & Sustainability
ABL Space Systems	Todd	Lindner	Head of Launch Site Operations
Blue Origin	Gleckel	Gerry	Vice President, Florida Launch Operations
Blue Origin	Butler	Patrick	FAA ATO Space CDM Co-Lead/Director, Mission Execution
Boeing	Chris	Ferguson	Chief Astronaut; Human Spaceflight Safety
Commercial Spaceflight Federation (CSF)	Drees	Karina	President
Relativity Space	Brost	Joshua	Senior Vice President
Relativity Space	Mosdell	Joy	Senior Manager, Government Launch Operations
Rocket Lab USA, Inc.	Bunker	Andrew	Vice President, Government Operations and Business Strategy
Sierra Space	Allen	Meghan	Vice President of Washington Operation
Sierra Space	Allison	Christopher	Government Relations

Space Perspective	Hitt	Mark	Head of Government Affairs
SpaceX	Lapidus	Mike	FAA ATO Space CDM, Co-Lead / Director, Government Affairs
Stoke Space	Julius	Brian	Flight Termination System Lead
United Launch Alliance	Thorp	Vern	Commercial Program Director
FAA Office of Communications (AOC)	Kulm	Steve	Public Affairs
FAA Office of Commercial Space Transportation (AST)	Coleman	Kelvin	Associate Administrator for Commercial Space Transportation
FAA Office of Commercial Space Transportation (AST)	Zee	Stacey	Manager, Operation Support Branch
FAA Air Traffic Organization (ATO)	Arel	Timothy	FAA Chief Operating Officer
FAA Air Traffic Organization (ATO)	Gullan	Nina	Senior Advisor Strategic Communications
FAA ATO System Operations (ATO-AJR)	Hood-Fleming	Alyce	Vice President, ATO System Operations
FAA ATO System Operations (ATO-AJR)	Price	LaKisha	Director, NAS Operations
FAA ATO System Operations (ATO-AJR)	Freer	Duane	Group Manager, ATO Space Operations
FAA ATO System Operations (ATO-AJR)	Payne	Vern	Manager, Collaborative Decision Making (CDM) and International Operations
FAA ATO System Operations (ATO-AJR)	Kesler	Ed	Senior Advisor, NAS Operations
FAA ATO System Operations (ATO-AJR)	Ortega	Denis	Senior Advisor, System Operations (Ph.D.)
FAA ATO System Operations (ATO-AJR)	Assink	Elizabeth	Space Collaborative Decision Making, Program Manager
FAA ATO System Operations (ATO-AJR)	Nicholls	Allison	Space Collaborative Decision Making, Coordinator
FAA ATO Air Traffic Services (ATO-AJT)	Throop	Brian	Vice President, ATO Air Traffic Services (A)
FAA Air Traffic Organization (ATO-AJV)	Beck	Robert	Deputy Vice President, Mission Support Services (A)
National Air Traffic Controllers Association (NATCA)	Behan	Paul	NATCA Commercial Space Rep
US Space Force	Bontrager	Mark	Technical Director
National Aeronautics and Space Administration (NASA)	Hutcherson	Dana	Launch Vehicle Systems Office Deputy Manager, NASA's Commercial Crew Program
National Aeronautics and Space Administration (NASA)	Chan	Steve	Commercial Crew Program External Interface Manager
Space Florida	Ketcham	Dale	Vice President, Government & Community Relations
Space Florida	Cody	Ellen	Liaison/Coordinator
Space Florida	Moffitt	Jimmy	Launch and Flight Operations

