FAA ATO Space CDM

Program Overview

Federal Aviation Administration

Space Collaborative Decision Making (CDM)

- Brings together the FAA, space transport operators, and other space integration stakeholders for dialogue, education, and data/information exchange.
- The goal is to optimize integration of space transport operations into the National Airspace System (NAS) for all stakeholders.
- Was recommended by the Airspace Access Priorities Aviation Rulemaking Committee (AAP ARC) in their 8/21/19 report.

ARC recommendation #3

"...the **FAA establish a CDM-like space operations committee** to recommend appropriate **information to be exchanged with the FAA for more dynamic airspace management and situational awareness** and to help implement the details charted by the steering committee." –p.21

ATO Space CDM is and is not…

ATO Space CDM is

- ✓ Focused on space operations
- ✓ An operating paradigm and a philosophy through information exchange
- ✓ Follows best practices of 25+ history with Aviation CDM
- ✓ Allow space operators to build the collaboration framework with FAA – leverage existing industry bodies where appropriate rather than duplicate

ATO Space CDM is not

- × Not about licensing and regulation
- × ATO SpCDM is not a decision-making body (e.g., FACA)
- × Will not make decisions or consensus for FAA, rather inform ATO Space Operations
- × Not creating data standards

All work is voluntary.

ATO Space CDM at-a-glance

FAA ATO Space CDM launched in June 2021

- February 2021: ATO COO brief and concurrence
- June 2021: Space CDM kick-off
- September 2021: Charter published
- December 2021: First sub-team pilot launched
- June 2022: First Space Operations Committee meeting
- February 2024: Space CDM term structure no longer required (Space CDM ESC concurrence)

3 Space CDM sub-teams

- December 2021: Data Exchange 1 - Space Data Integrator
- October 2022: Data Exchange 2 - Mission Planning (SpORT)
- September 2024: Near-term Airspace Integration

3 Aviation and Space CDM joint sub-teams

- September 2023: Common metrics for space operations
  Space Operations Impact and Mitigations Course Development
- June 2025: Joint Task #1001: Weather Resources

21 meetings

- 8 Executive Steering Committee (ESC) meetings
- 12 Space Operations Committee (SpOC) meetings
- 3 Joint Aviation and Space CDM executive committee meetings
- 1 Space Industry Day

18 member organizations represented by 70+ individuals

- 13 space companies
- 5 associations
  - Airlines for America (A4A)
  - Commercial Space Federation (CSF)
  - International Air Transport Association (IATA)
  - National Air Traffic Controllers Association (NATCA)
  - National Business Aviation Association (NBAA)
- **3 government agencies**
  - FAA Air Traffic Organization (ATO) Space Operations
  - FAA Office of Commercial Space Transportation (AST)
  - NASA
  - U.S. Space Force

FAA ATO Space CDM structure

Executive Steering Committee
Advises the FAA on space airspace access and FAA ATO SpCDM

Space Operations Committee
A collaboration and information exchange forum

Sub-teams
Subject matter experts to explore specific space-related tasks

Data Exchange

- Space Data Integrator (SDI)
- Mission Planning (SpORT)

Near-term Airspace Integration

Joint Task #1001: Weather Resources

Space CDM Sub-team Tasking

Near-term Airspace Integration	Data Exchange #1: Space Data Integrator (SDI)	Data Exchange #2: Mission Planning (SpORT)	Joint Task #1001: Weather Resources
FAA Co-lead: Matt Moderno, Higher Airspace Engineering Project Manager, FAA Office of Next Gen **Industry Co-lead:** Isaiah Wonnenberg, VP of Regulatory Affairs, Commercial Space Federation	**FAA Co-lead:** Amanda Matthews, Program Manager (A), FAA ATO Space Integration Program Office **Industry Co-lead:** Ron McKee, Launch & Range Integration, United Launch Alliance Industry	**FAA Co-lead:** Gunther Smiley, Supervisory Aerospace Engineer, ATO Space Operations **Industry Co-lead:** TBD	**SpCDM FAA Co-lead:** Benjamin Flett, Aerospace Engineer, ATO Space Operations **SpCDM Industry Co-lead:** Phil Manougian, Lead Range & Meteorology Operations, SpaceX **CDM FAA Co-lead:** Brandon Smith Meteorologist, Office of Next Gen **CDM Aviation Industry Co-lead:** Richard Egert, United
Task: Understand what near-term actions can be implemented by both FAA and industry to assist with airspace integration during space launch and reentry operations over the next five years. **Scope:** 1. Evaluate present roadmap for requirements, tools, resources, and blockers, including: a) Real-time hazard area generation b) Real-time debris response area generation c) Current capabilities and implementation milestones vs. ARC recommendations (comparison) 2. Conduct assessment – evaluating current roadmap for the next five years and near-term actions to implement within that timeline.	**Task:** Deployed an operational prototype in June 2021. The team is working with Launch and Reentry Operators (LROs) to onboard and maintain existing capabilities. **Scope:** On hold **Completed tasks:** 1. SDI 101 session with SpOC industry members and SMEs. 2. Information from session contributed to Space Integration Program Office SDI FAQs. 3. Companies with SDI-enabled vehicles include SpaceX, Virgin Galactic, Sierra Space, Firefly, and Blue Origin.	**Task:** Explore tools and processes to improve the pre-mission data exchange between the FAA, LROs, and other stakeholders. **Scope:** 1. Pre-mission, reentry, operational planning data exchange 2. Identify data exchange needs and challenges by stakeholders 3. Identify, consolidate, and summarize industry preferences for near-term Portal capabilities 4. Identify long-term solutions for improved data exchange	**Task:** This is a joint task between the Aviation CDM and Space CDM subject matter experts to explore forecast needs specific to LRO sites. **Scope:** 1. The Joint Task will gather their findings and recommendations into a final report. 2. The team will be expected to brief the respective ECs on progress and provide their final report by November 30, 2025.

ATO Space CDM Space Operations Committee (SpOC) Members

Air Traffic Organization (ATO)

- System Operations
- NAS Operations
- Space Operations
- Safety
- Air Traffic Services
- International
- Policy
- Program Management Organization
- Strategy
- Terminal Services
- Technical Operations

Active Space Transport Operators (STOs)

- Blue Origin
- Boeing
- Firefly Aerospace
- Relativity Space
- Rocket Lab
- Sierra Space
- SpaceX
- Stoke Space
- Stratolaunch
- United Launch Alliance
- Virgin Galactic

Other stakeholders as appropriate, e.g., FAA Office of Commercial Space Transportation (AST), NASA, U.S. Space Force, and key associations

QUESTIONS

Geri Reinhart
Space CDM Coordinator
mary.ctr.reinhart@faa.gov
SPOC@faa.gov
tfmlearning.faa.gov/SpaceOps.html