



Space Commerce Highlights

News from the Office of Space Commerce

September 2024

We welcome your feedback at: space.commerce@noaa.gov.

From the Director

Colleagues & friends,

September was a history-making month for the Office of Space Commerce, as we “went live” with an initial version of the United States’ first-ever dedicated civil space situational awareness capability, our “Traffic Coordination System for Space.”

Arriving at this point has taken years of hard work and collaboration by professionals across the government, at FFRDCs and research institutions, and, of course, within industry. I’d like to commend and congratulate you all for this major milestone.

At the AMOS conference last month, I was excited to talk about the progress - past, present, and future - that the TraCSS program has been making. Our team shared updates on our hand-in-hand collaboration with the Department of Defense to transition the space situational awareness mission; and on our work with partners in the international community to advance global collaboration on SSA. If you weren’t able to attend AMOS, I’d certainly encourage you to check out our presentation material on the Office of Space Commerce website.

We’ll have plenty more updates and insights to share about all of OSC’s work during the International Astronautical Congress this week. If you’re there - be sure to say hi!

And, as always, I look forward to hearing from you,



A handwritten signature in black ink, appearing to read "R. Paul R. ...".



Learn more about the TraCSS program at: www.space.commerce.gov/tracss
OSC inbox for industry engagement on TraCSS: tracss.commerce@noaa.gov

* * *

TraCSS Launches Initial Capabilities



On September 30, NOAA announced that the initial phase of its Traffic Coordination System for Space (TraCSS) has begun delivering spaceflight safety services to a beta group of satellite operators. For the first time, satellite operators are receiving basic space situational awareness (SSA) data and space traffic coordination (STC) services from the Commerce Department.

Nine satellite operators – **NOAA, Maxar, Telesat, Intelsat, the Georgia Institute of Technology, Planet Labs, Eutelsat OneWeb, Iridium, and the Aerospace Corporation** – now receive validated safety notifications from TraCSS in the form of conjunction data messages (CDMs, alerts describing potential collisions). TraCSS will add satellite operators and provide more data and services as the program progresses.

The announcement marks a milestone in DOC's work to implement the U.S. Space Priorities Framework and Space Policy Directive-3, which directed DOC to take this mission over from the Department of Defense.

In Phase 1.0, TraCSS provides CDMs for approximately 1,000 space objects six times a day. The CDMs generated by TraCSS Phase 1.0 are currently distributed to a set of beta users via the Space-Track.org website managed by the Department of Defense.

"The Office of Space Commerce leads our Department's efforts to advance U.S. leadership in the global commercial space industry, and TraCSS is a testament to U.S. leadership in safe and sustainable space commerce," said U.S. Department of Commerce Deputy Secretary Don Graves. "The Department of Commerce is building this system in close cooperation with industry partners to harness and promote commercial innovation in space. Together, we are helping to ensure the safe and sustainable growth of the space economy."

"As space has become more congested, NOAA has risen to the challenge to prevent catastrophic collisions in space by developing TraCSS," said NOAA Administrator Rick Spinrad, Ph.D.

"TraCSS represents a modern approach to spaceflight safety, integrating the latest technologies and providing on-ramps for continuous improvements that will scale into the future," said Richard Dalbello, director of NOAA's Office of Space Commerce. "I'm thankful for our team and partners for doing the hard work to launch the first phase on schedule."

"The Department of Defense (DoD) is working side-by-side with the Department of Commerce (DoC) to ensure the seamless transfer of responsibility for civil and commercial Space Situational Awareness services and information," said Performing the Duties of Associate Secretary of Defense for Space Policy, Mr. John Hill. "As the DoC assumes this important mission, it will continue to have access to data collected through DoD's worldwide space surveillance network. DoD will also continue to provide SSA services to civil and commercial users during the transition process until DoC is able to assume full responsibility for the mission. Transitioning the spaceflight safety SSA responsibilities to DoC, a civil agency, will improve support to these users and allow DoD to focus its resources on core defense missions."

The TraCSS program has accelerated since receiving a significant funding boost in Fiscal Year 2023. Collaboration among the Department of Commerce, NOAA, and the Office of Space Commerce teams with industry enabled rapid progress from receiving an Authority to Proceed from DOC on March 5, 2024, to the TraCSS system integrator contract award later in March 2024, to achieving Authority to Operate with NOAA Office of the Chief Information Officer in August 2024, and the successful fielding of TraCSS 1.0.

The TraCSS team will continue to field successive upgrades over the next year, leading to Phase 1.4 by the end of September 2025. Planned improvements include the establishment of a dedicated TraCSS.gov website and the integration of additional commercial SSA capabilities. The Office of Space Commerce (OSC) will also work with the Department of Defense to migrate satellite operators from Space-Track.org to TraCSS.

Learn more in OSC's press release, available [here](#).

The Office of Space Commerce Announces Commercial Partners for New TraCSS Pathfinder Project

On September 25, OSC announced the acceptance of its recent orders for space situational awareness (SSA) services in support of a commercial pathfinder project on satellite owner/operator (O/O) ephemeris. The purpose of the project is to examine the efficacy of generating improved satellite ephemeris based on data provided by satellite O/O's.

For the provision of SSA data services in low Earth orbit (LEO) and geostationary Earth orbit (GEO), OSC orders on the Global Data Marketplace were accepted for fulfillment by **ExoAnalytic Solutions**, **Slingshot Aerospace**, and **COMSPOC**. Meanwhile, **SpaceNav** and **Kayhan Space** accepted orders to serve as data quality monitors for LEO and GEO observations over the course of this pathfinder.

The Improved Satellite O/O Ephemeris Pathfinder is the latest in a series of planned pathfinder projects designed to inform the future buildout of the operational TraCSS. The results of this pathfinder project will accelerate OSC's ability to leverage commercial SSA capabilities, specifically by improving the quality of the data inputted to the TraCSS conjunction assessment screening process. Increased data quality is expected to improve the usefulness of TraCSS SSA services to meet spaceflight safety needs.

Learn more about the pathfinder [here](#).

* * *

Study Compares SSA Services Provided by TraCSS & EU SST

The Office of Space Commerce and the European Union (EU) have released a joint paper comparing the services provided by OSC's TraCSS and the EU Space Surveillance and Tracking (EU SST) capability.

Both TraCSS and EU SST, in partnership with the commercial SSA industry, will offer SSA services to spacecraft operators worldwide.

The new study, conducted by personnel from both programs, highlights similarities and differences between the two systems.

3. PUBLIC SSA SAFETY SERVICES

EU SST and TraCSS are both committed to providing services to spacecraft operators free of charge to support spaceflight safety and space sustainability (Table 1). The following section describes these services in detail and discusses whether each service is provided by one or both systems.

Table 1 EU SST & TraCSS Services Comparison Summary Table (as of August 2024)

	EU SST	TraCSS
1. SSA information as a service		
1. Contact information	No	Yes
2. Satellite attributes	No	Yes
3. O/O ephemerides with planned maneuvers	No	Yes
4. Catalog of space objects	No	Yes
2. In-Orbit Collision Avoidance service:		
1. Routine catalog and O/O ephemerides screening and CDM production	Yes	Yes
2. Risk Assessment ⁴ and Detection and Notification of High Interest Events/Emergency Events	Yes	Yes
3. Additional tracking on the secondary and/or primary objects	Yes	Yes
4. Basic CAM Options for selection by O/O ³	Yes	Yes
5. Candidate CAM Screening	Yes	Yes
6. For selected HIE/ Emergency Events, dialogue with O/O	Yes	Yes
3. Candidate Maneuver Screening	No	Yes
4. Spacecraft Anomaly Reporting	No	Yes
5. Reentry Monitoring Service	Yes	Future Phase
6. Fragmentation Notification and Analysis Service:	Yes	Yes (Notification only)
7. Potential Future Services Under Consideration		
1. Launch Collision Avoidance service	TBD	Future Phase
2. Improved O/O Ephemerides	TBD	TBD
3. Space Weather Information and Atmospheric Drag Model	No	TBD
4. Traffic Coordination Platform as a Service	TBD	TBD

A detailed breakdown within the study reveals significant alignment between TraCSS and EU SST, particularly in collision avoidance services. Some differences remain in the availability of maneuver screenings and anomaly reporting. The study also identifies potential future developments, such as launch collision avoidance and improved operator ephemeris, aimed at addressing the evolving needs of the space industry.

This study represents a step toward greater transparency and collaboration as the space sector continues to grow. The TraCSS and EU SST teams are committed to continuing their work with global partners to promote space safety and sustainability.

For more information, visit OSC's web post about the study [here](#).

The study may be accessed [here](#).

* * *

September 2024 TraCSS Video Update & Other Resources

On Tuesday, September 17, the NOAA Office of Space Commerce [released a video update](#) on the planning for the Traffic Coordination System for Space.

In January of 2023, OSC released a Request for Information (RFI) on a proposed scope of basic SSA safety services to be provided by TraCSS. Following analysis of the feedback received and insights from the development of TraCSS Phase 1.0, OSC is pleased to present an updated scope of TraCSS SSA safety services. The TraCSS SSA safety services will continue to evolve over time as requirements, needs and technology evolve.

OSC plans to continue sharing periodic updates and hosting public listening sessions about TraCSS throughout the year. Later this fall, after the TraCSS 1.0 launch, OSC will provide a more comprehensive update regarding Phase 1 of TraCSS and expectations for future phases.

Meanwhile, at the 2024 Advanced Maui Optical and Space Surveillance Technologies (AMOS) Conference, OSC leadership gave a number of presentations on TraCSS updates, including:

- Director Richard DalBello's [AMOS 2024 TraCSS presentation](#), highlighting TraCSS development milestones, architecture, capability rollout, pathfinders, DoD collaboration, and role in global SSA coordination
- Director of International SSA Engagement Mariel Borowitz's [EU SST - TraCSS SSA Services Comparison presentation](#), accompanying the joint study.

To access previous video updates and other TraCSS materials, visit the [TraCSS Videos, Listening Sessions, and Documents resource page](#).

Stakeholder Engagements

NOAA Holds Inaugural Meeting of the Advisory Committee on Excellence in Space

On October 3, NOAA convened the kickoff meeting of the Advisory Committee on Excellence in Space (ACES). ACES, a Federal Advisory Committee, provides advice and recommendations to NOAA and OSC on matters relating to OSC's statutory purview.

Originally established in 2002 as the Advisory Committee on Commercial Remote Sensing (ACCRES), the committee was rescoped and rechartered in 2024 to address a broader range of commercial space issues.



ACES' 2024-2025 inaugural membership, along with OSC Director Richard DalBello, Deputy Director Janice Starzyk, and DFO Jason Kim.

During the inaugural meeting, ACES members received briefings from:

- Director Richard DalBello, on the **Office of Space Commerce and TraCSS program.**
- Dr. Sarah Brothers, Director of the Commercial Remote Sensing Regulatory Affairs Division, on **NOAA's regulation and licensing of commercial remote sensing systems.**
- Gabriel Swiney, Director of the Policy, Advocacy, and International Division, along with NOAA OGC's Gry Dreyzen and Derek Hanson, on **the state-of-play involving novel space activities and "mission authorization."**

Deputy Secretary of Commerce Don Graves along with NOAA Administrator and Under Secretary of Commerce for Oceans and Atmosphere Richard Spinrad also addressed the group, offering their perspectives on the committee's work.



Deputy Secretary of Commerce Don Graves (right, head of table) and NOAA Administrator Richard Spinrad (left, head of table) address the ACES' membership.

During the meeting, ACES members agreed to establish subcommittees focused on licensing of remote sensing systems; on space sustainability and SSA; and on mission authorization. ACES will reconvene in the first half of 2025.

ACES' 17 expert members represent interests across the space community. They are:

- Ms. Caryn Schenewerk, Georgetown University, Chair (Representative)
- Mr. David Gauthier, GXO Inc., Vice-Chair (Representative)
- Ms. Blake Bullock, Northrop Grumman (Representative)
- Mr. Dave Cavossa, Commercial Spaceflight Federation (Representative)
- Dr. Mary Lynne Dittmar, Axiom Space (Representative)
- Dr. Brien Flewelling, ExoAnalytic Solutions (Representative)
- Mr. Tony Frazier, LeoLabs (Representative)
- Col (ret) Elvert Gardner, Aperio Global (Special Government Employee)
- Mr. Alex Gilbert, Zeno Power (Representative)
- Mr. Kalpak Gude, Amazon Kuiper (Representative)
- Mr. Jared Hautamaki (Special Government Employee)
- Mr. Chris Kunstadter, Triton Space LLC (Special Government Employee)
- Dr. Clare Martin, Astroscale U.S. (Representative)
- Mr. Michael Nicolls, SpaceX (Representative)
- Ms. Danielle Piñeres, Planet Labs PBC (Representative)
- Ms. Audrey Schaffer, Slingshot Aerospace (Representative)
- Mr. Al Tadros, Redwire (Representative)

For more information and to access the presentations given during the inaugural ACES meeting, visit the [meeting webpage](#). In the coming weeks, a video recording and written minutes of the meeting will be posted on this page.

Across Commerce

NOAA Awards Two Commercial Microwave Sounder Pilot Contracts

On September 17, NOAA awarded contracts totaling \$4,266,400 to purchase Microwave Sounder (MWS) data from two commercial satellite companies in support of new Commercial Weather Data Pilot (CWDP) studies. The first contract for \$2,266,400 is to Tomorrow.io of Boston, MA. The second contract for \$2,000,000 is to Orbital Micro Systems of Boulder, CO.

In these studies, NOAA will assess the quality, characteristics, and impacts of available commercial MWS observations collected from Low Earth Orbit (LEO) platforms. Passive microwave measurements are important for climate modeling, and disaster preparedness. MW sounders provide foundational measurements of atmospheric vertical temperature and moisture profiles as well as land and hydrology measurements.

NOAA will use the pilot study data in two ways. First, to investigate the utility of MWS products developed by commercial vendors. Second, to address the potential benefits to numerical weather prediction (NWP) by adding additional commercial capabilities over the current U.S. Government LEO backbone. Upon completion and evaluation, successful CWDP studies may lead to sustained commercial data purchases to support NOAA's research and operational forecasting endeavors.

For more information, visit OSC's [news release](#).

NOAA Awards 4th Delivery Order Under Radio Occultation Data Buy II

On September 4, 2024, the NOAA Commercial Data Program (CDP) awarded its fourth Delivery Orders under the Radio Occultation Data Buy II (RODB-2) Indefinite Delivery/Indefinite Quantity (IDIQ) contract. NOAA awarded two firm-fixed-price contracts totaling \$10,376,950 to Space Sciences and Engineering LLC (PlanetiQ) of Golden, Colorado, and Spire Global Subsidiary, Inc., of Vienna Virginia, to supply radio occultation data to NOAA over a one-year period.

Under DO-4, NOAA will acquire 3,000 near-real-time global navigation satellite system radio occultation (GNSS-RO) data profiles per day to support operational weather forecasting. NOAA, USAF, and the U.S. Navy will utilize these data to ingest into their numerical weather prediction models. In addition, various U.S. government and international government agencies utilize these data for operational and research purposes.

Through CDP, NOAA continues to implement the Weather Research and Forecasting Innovation Act of 2017, which directs NOAA to obtain commercial weather data from private sector providers following pilot assessments that demonstrate commercial sector readiness. NOAA's CDP has successfully engaged the commercial sector through a competitive process and has acquired operational satellite

data-as-a-service. Commercial RO data constitute an important addition to NOAA's portfolio of environmental observations, which help improve weather forecasts and reduce risk to the overall observing system.

For more information, visit OSC's [news release](#). Learn more about the Commercial Data Program [here](#).

* * *

Looking Ahead

OSC staff will be featured participants in these upcoming events. Interested in meeting with us at one of these events? Submit a meeting request [here](#).

- Oct 14-18:** IAC 2024 - Milan, Italy
- Nov 7:** NSSA SPace Domain Awareness Forum - McLean, VA
- Nov 13:** GNOSIS Conference 2024 - Virtual
- Nov 14:** CONFERS Global Satellite Servicing Forum - Arlington, VA

* * *

OSC in the News

- *Breaking Defense:* [Commerce 'on track' for version 1.0 of space tracking system, using DoD data](#)
- *Breaking Defense:* [Not a one-way street: DoD will receive, not just give, data to Commerce's space traffic system](#)
- *Breaking Defense:* [Commerce initiates civil space tracking operations with 'beta' users](#)
- *ExecutiveGov:* [Office of Space Commerce Taps Industry Collaborators for TraCSS Pathfinder Project](#)
- *Space Daily:* [Space Command working with Office of Space Commerce for spaceflight safety](#)
- *SpaceNews:* [Office of Space Commerce ready to turn on initial version of space traffic coordination system](#)
- *SpaceNews:* [Commerce begins beta tests of space traffic coordination system](#)
- *The Space Review:* [Getting space traffic coordination on track](#)

* * *

Connect With Us!

- Website: space.commerce.gov
- Contact Us: space.commerce.gov/contact-us
- TraCSS: space.commerce.gov/tracss
- LinkedIn: [Office of Space Commerce](#)
- X: [@CommerceinSpace](#)
- Past Newsletters: space.commerce.gov/about/osc-newsletters