



**NOAA's Office of Space Commerce**

***Updates on the***  
**Traffic Coordination System for Space**  
**(TraCSS)**

**Richard DalBello, Director**

Office of Space Commerce  
National Oceanic and  
Atmospheric Administration  
U.S. Department of Commerce  
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# OSC: Enabling the Space Industry



The Office of Space Commerce (OSC) seeks to enable a world-leading U.S. space industry and ensure that the United States remains the flag of choice for space businesses and operations.

## Advocacy

- Coordinate government-wide commercial policy issues and actions.
- Pursue the removal of legal, policy, institutional barriers to space commerce.
- Act as an industry advocate within the Executive Branch.

## Operations

- Execute the civil space situational awareness (SSA) mission.
- Enable safe space operations for the preservation of human lives, business assets, and the space environment.
- Support global standards and best practices for SSA.

## Regulation

- License U.S. operators of private remote sensing systems.
- Monitor licensees for compliance with U.S. law and regulation.
- Protect national security, foreign policy, and international obligations.



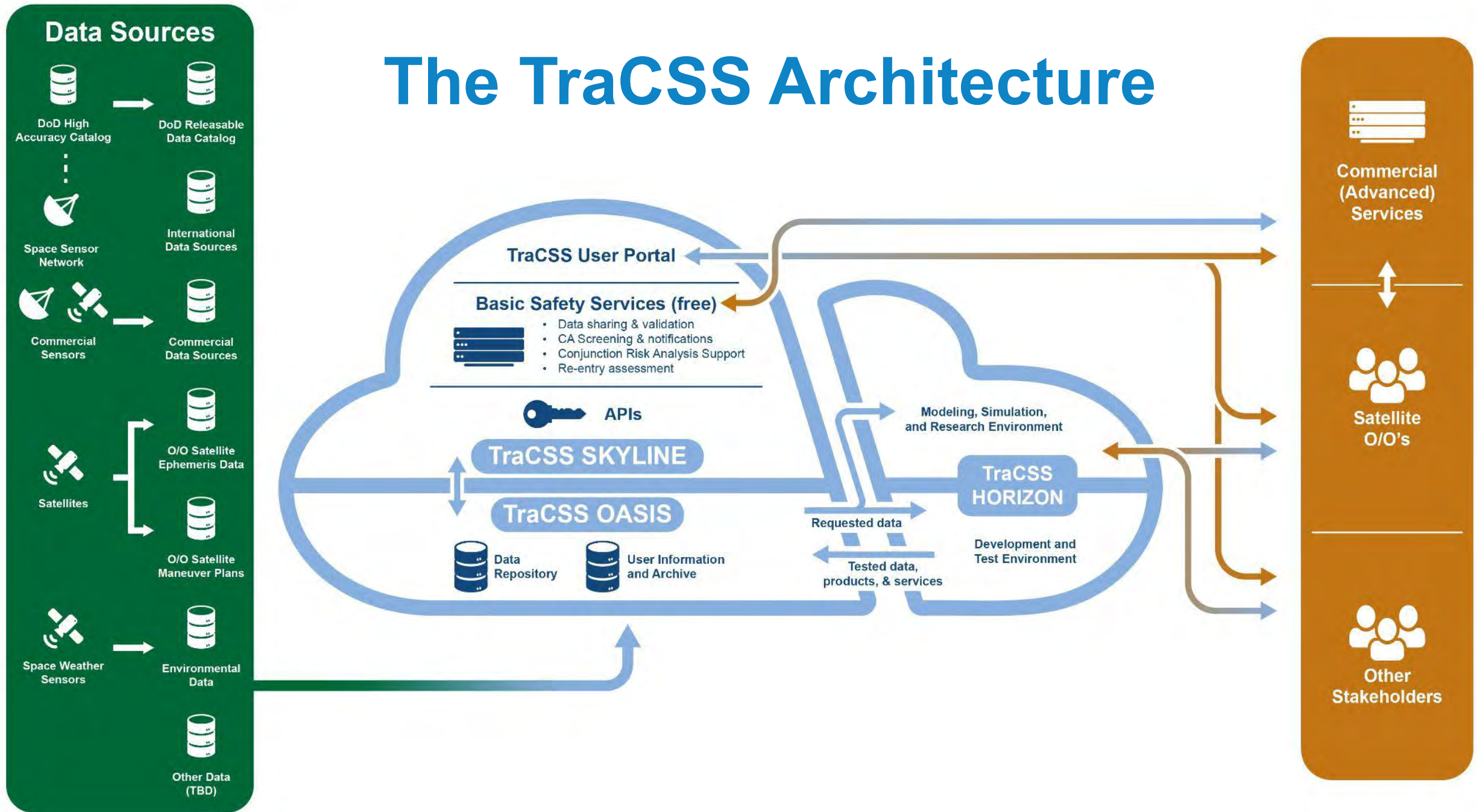
# TraCSS' Major Milestones: 2018 - 2024



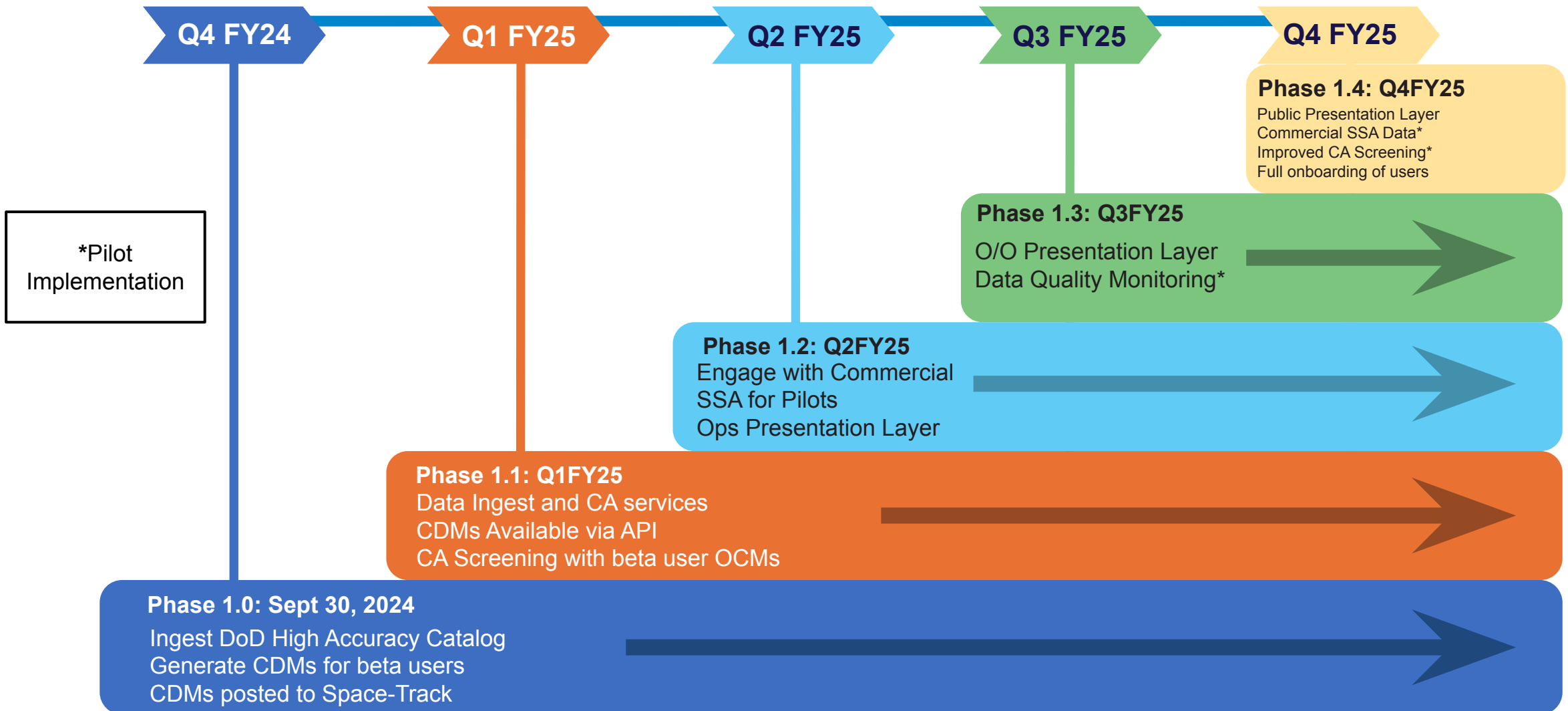
- **SPD-3 Issued (2018)** - directed transfer of responsibility for civil space situational awareness from DOD to DOC.
- **DOD/DOC MOA (Sept. 2022)** - framing the departments' relationship for basic space situational awareness, space traffic management, and coordination for civil and commercial entities.
- **FY23/FY24 appropriations for TraCSS (2023/2024)** - dedicated funding to develop the TraCSS system.
- **Cloud Contract Awarded (2023)** - Amazon Web Services.
- **System Integrator (March 2024)** - Parsons Corporation, managing system integration and cloud management.
- **TraCSS granted "authority to proceed" (March 2024)**
- **Presentation Layer contract (TBD- FALL 2024)**
- **Rollout of TraCSS Phase 1.0 initial capability (Sept. 30, 2024)**



# The TraCSS Architecture



# Phase 1 Capability Roll-Out Plan: Phased Delivery of Commercial Functionality





# TracSS Development

System Integrator

Phase 1.0 rollout

Presentation Layer

# DOD-DOC Alignment

Annex A (Data Transfer)

Annex B (Roles & Responsibilities)

Working Groups

# Industry Partnership

Stakeholder Listening Sessions

Consolidated Pathfinder

Improved O/O Pathfinder

# Intl. Engagement

EUSST-TraCSS Studies

SSA Global Vision

# “Institution”

Legislative Proposal for TraCSS Authorization

Increased staffing 4x

Hired Program Manager



# TraCSS DEVELOPMENT

## FY23

- Defined architecture
- RFI on scope of basic SSA services
- Commerce IT Review Board approval as a major IT system
- RFI for system integrator
- Cloud utility contract award (AWS, \$1.2M)

## FY24

*(Through mid-September)*

- Hosting agreement for primary ops center (Boulder) and build out of backup ops center (Suitland)
- Completed Agile training
- Cloud provisioning for pathfinders
- Milestone 2 Review Board & Dep Sec Authority to Proceed
- System integrator contract award (\$15.5M) & onboarding
- Phase 1.0 development
- Presentation layer RFI & vendor demos and RFP
- Beta users collaboration kickoff

# INDUSTRY PARTNERSHIP

## FY23

- Commercial SSA data buys and independent evaluation by MIT Lincoln Labs
- MEO/GEO pilot contract awards
- SSA CEO roundtable
- Satellite owner/operator workshop
- SSA provider workshop
- Public video on TraCSS development plan

## FY24

*(Through mid-September)*

- Stakeholder listening sessions
  - Standards & formats
  - DoD-DOC ops transition
  - Conjunction data messages
  - Orbit comprehensive messages
  - Data policy and user agreement
- CRADA with SpaceX
- Consolidated Pathfinder *(5 companies, \$15M)*
  - 3 sets of orders
  - Completing assessment
- Improved O/O pathfinder
  - 2 sets of orders
  - 2 month live data period
- GEO data and catalog reconciliation Study



# The Consolidated Pathfinder



How can we leverage different commercial SSA sensor technologies to improve the quality of a conjunction screening, focused on the LEO regime, to support spaceflight safety? How can OSC approach acquiring and monitoring capabilities from commercial SSA vendors for sustained operations?

## Conclusions:

- **The Consolidated Pathfinder was a successful public-private partnership.**
- **The Consolidated Pathfinder will enable OSC to accelerate efforts to integrate commercial capabilities into the TraCSS operational system.**
- Multiple industry competitors cooperatively tackled spaceflight safety, space sustainability, and international coordination challenges.
- Successfully defined and validated metrics for future acquisitions and performance monitoring.



## DOD COLLABORATION

### FY23

- DoD-DOC MOA implementation
- Data exchange working group
- State management working group
- Personnel exchange agreement

### FY24

(Through mid-September)

- Annex A (data transfer requirements) to DoD-DOC MOA signed
- Annex B (roles and responsibilities) in coordination
- Ongoing working groups:
  - Machine-to-machine data transfer
  - DoD-DOC Ops Transition
  - SSA Data Sharing
  - Strategic Communications

# TraCSS' DOD-DOC Working Groups



Multiple technical, policy, and operations DOD-DOC working groups are meeting weekly.



Annex A -  
Data Transfer



Annex B -  
Roles & Responsibilities



SSA Data Sharing



Machine-to-Machine



Space-Track.org -  
TraCSS.gov



State Management



Ops Transition

## Future Groups:

- Phase 2: Launch COLA Working Group.
- Phase 3: Re-entry Management Working Group.
- Mega-constellation Working Group.

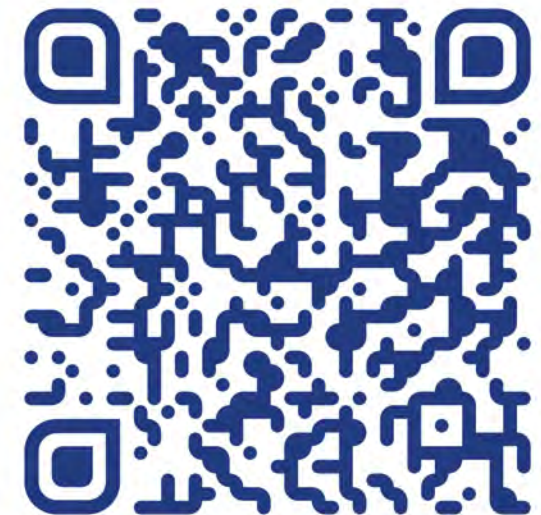


# TraCSS' Safety Services

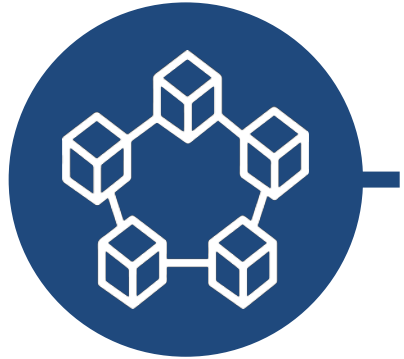


TraCSS will provide access to selected SSA data and information, such as:

- A TraCSS satellite database.
- Owner/operator contact information.
- Owner/operator ephemerides.
- TLE Catalog.
- Conjunction Data Messages (CDMs), which include an estimated probability of collision ( $P_c$ ).



# The “Global SSA Future” Vision



We envision a **global coordinated system of space situational awareness providers**, with a series of national or regional hubs providing information and services to spacecraft operators. **These centers will be supported by networks of international and commercial partnerships.**



Government services will be augmented by a **robust global commercial space situational awareness sector that provides value-added services** to support business intelligence and other advanced services.

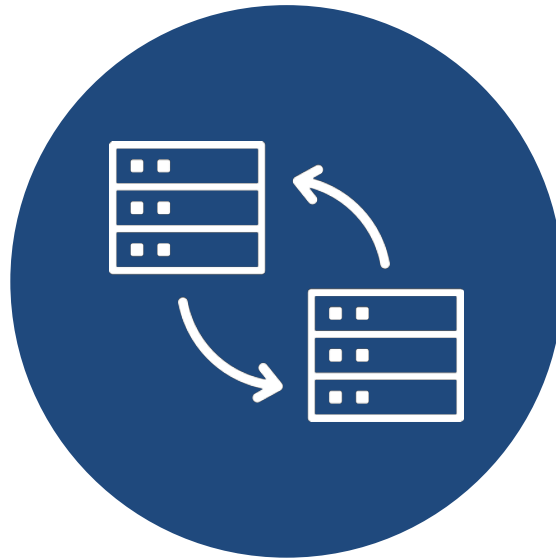


The Department of Commerce is committed to maintaining an **open and transparent system** that enables global coordination with other global SSA providers.

# “Global SSA Future” Implementation



**SSA  
Data  
Standards**



**SSA  
Information  
Sharing  
Principles**



**Satellite  
Operator  
Engagement**



**International  
Partnerships  
&  
Communication**



# Where We Are Going: TraCSS' Next Steps

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- **Standup Phase 1.0 initial capability with a beta set of users**
- Initiate dual operations period with DoD, staggered offloading of responsibilities, and migration of users to TraCSS
- Award user interface infrastructure procurement
- Execute additional SSA pathfinder projects with industry
- Begin initial procurements of sustained commercial SSA services for TraCSS operational service
- Solidify research and development plan; engage with industry and academia for feedback and input into plan
- Expand international partnerships and collaboration to execute on a “Vision for Global SSA Coordination”
- Plan for Phase 2 and Phase 3 capabilities

# Engage with OSC on TraCSS



## TraCSS webpage

<https://www.space.commerce.gov/tracss>

News, videos, and information on engagements, including past and upcoming public listening sessions



## Email

[tracss.commerce@noaa.gov](mailto:tracss.commerce@noaa.gov)

Submit TraCSS-related questions, comments, & feedback



## Newsletter

**OSC Engagement Form**

Subscribe to OSC outreach and engagement lists