We

Space Industry Days

Lethality and Deterrence in Space
Unleashing the Industrial Base

AFCEA Los Angeles

NDIA Greater Los Angeles

SCAPR Southern California Aerospace Professional Representatives

AFA Air & Space Forces Association Schriever Chapter #147

Voyager Technologies: Accelerating Mission Readiness

Driving action through an ecosystem of traditional and new space partners

AFA AIR & SPACE FORCES ASSOCIATION

Schriever Chapter 147 – Los Angeles

The Air & Space Forces Association (AFA) is an independent nonprofit dedicated to advocating for and supporting the U.S. Air and Space Forces.

2026 EVENTS:

- ⭐ **Schriever Space Futures Forum and Executive Reception – May 14-15**
- ⭐ **Space Force Ball/Salute to SSC - May 15**
- ⭐ **Schriever Wall of Honor Induction - Sept**
- ⭐ **Space Industry Days (co-host) - Oct**
- ⭐ **Schriever Space Futures Forum and Executive Reception - Nov**
- ⭐ **Space Force Ball - Nov**

ACTIVITIES:

- SSC Events support
- Airmen & Guardian and Family Support
- Awards & Scholarships for Military/Civilian
- Air & Space Forces Retiree & Veterans Events
- Gold Star Families Support
- ROTC & JROTC Scholarships & Support
- STEM Education Awards & Grants
- CyberPatriot & Stellar Xplorer Grants
- LA Military Charitable Fund Donations
- Air & Space Forces Recruiting Support

ASTRION™

Accelerating Mission-Ready Capability

Delivering Value Where it Matters Most

Faster Fielding of Mission-Ready Capability.

Rapid digital and live evaluation reduces time-to-deploy while increasing confidence.

Safer Systems. Stronger Mission Assurance.

Identify risks early, validate performance, and ensure critical systems work in the field - the first time.

Bringing Commercial Innovation Safely into Legacy and Modern Systems.

Inject commercial innovation into legacy and modern system with confidence and control.

Hybrid Testing Focused on What Matters, When it Matters.

The right mix of modeling, simulation, AI, and live testing to speed readiness without sacrificing rigor.

Space Industry Days

SPACE COMBAT POWER

DRIVE ADVANCED WARFIGHTING CAPABILITIES IN, FROM, TO AND THROUGH SPACE FOR THE JOINT FIGHT

Col. Bryon E. C. McClain
PEO SCP

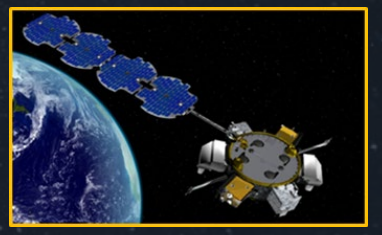
January 2026

SPACE COMBAT POWER

Program Executive Officer (PEO): Col. Bryon E. C. McClain, USSF
Deputy PEO: Col. Scott L. Klempner, USSF







WHAT WE DO - Acquire Space Control capabilities to drive Space Superiority

Mission Areas

Orbital Warfare

Combat operations via fires, movement, and maneuver

MD 9 - SYD 89/OW

Electromagnetic Warfare

Combat operations through the electromagnetic spectrum

MD 3 - SYD 89/SW

Cyberspace Warfare

Combat operations in the cyber domain

MD 6 - SYD 89/SW

Space Domain Awareness

Space-based reconnaissance, surveillance, rendezvous, and proximity ops

MD 9 - SYD 89/SY

Space Data Network

Resilient strategic & tactical communications via space-based platforms

MD 8 - SYD 89/SW

Innovation & Prototyping

Next-generation technology development via partnerships

SYD 89/SD

Space Based Interceptors

Space-based missile defense capability

SYD 89/GD

Our Space Combat Power Team

Following our recent System and Mission Delta stand-ups, our teams—including members from SSC and CFC—work together as a unified team with one shared mission.

PEO
Col. Bryon E. C. McClain

DPEO
Col. Scott L. Klempner

MD 3

MD 3/CC
Col. Angelo Fernandez

MD 3/CD and SPD
Col. Edward Gutierrez

3STS/CC
Lt. Col. Benjamin Jewell

MD 6

MD 6/CC
Col. Travis Prater

MD 6/CD and SPD
Col. Joseph Pomager

6STS/CC
Lt. Col. Jason Altenhofen

MD 9

MD 9/CC
Col. Ramsey Horn

MD 9/CD and SPD
Col. Erik S. Stockham

SYD 89

SYD 89/CC
Col. Brendan Hochstein

SPD/Orbital Warfare (OW)
Dr. Rachel Murphy

- **SPM/Space Capabilities (OWF)**
  Lt. Col. Jared Grady
- **SPM/Space Dominance (OWH)**
  Lt. Col. Michael Ryan
- **SPM/Combat Power (OWI)**
  Lt. Col. Michael O'Connor
- **Chief Architect & User Integration (OWU)**
  Mr. Jesse Bullinger

SPD/Space Superiority (SY)
Lt. Col. Aurelio Irizarry

- **SPM/Capability Development (SYA)**
  Lt. Col. Cesar Rodriguez
- **SPM/Orbital Maneuver (SYM)**
  Lt. Col. Joseph Speakman
- **SPM/Space Recon & Surveillance (SYZ)**
  Lt. Col. Joseph Speakman

SPD/Spectrum Warfare (SW)
Lt. Col. Gary Goff

- **SPM/Milnet (SWM)**
  Lt. Col. Jeff Fry
- **SPM/Next-Gen Programs (SWN)**
  Lt. Col. Damon Wong
- **SPM/Rapid Acquisition (SWX)**
  Lt. Col. Adam Dunk
- **SPM/User Integration (SWU)**
  Mr Johnnie Mah

SPD/Innovation & Prototyping (SD)
Col Jonathon Seal

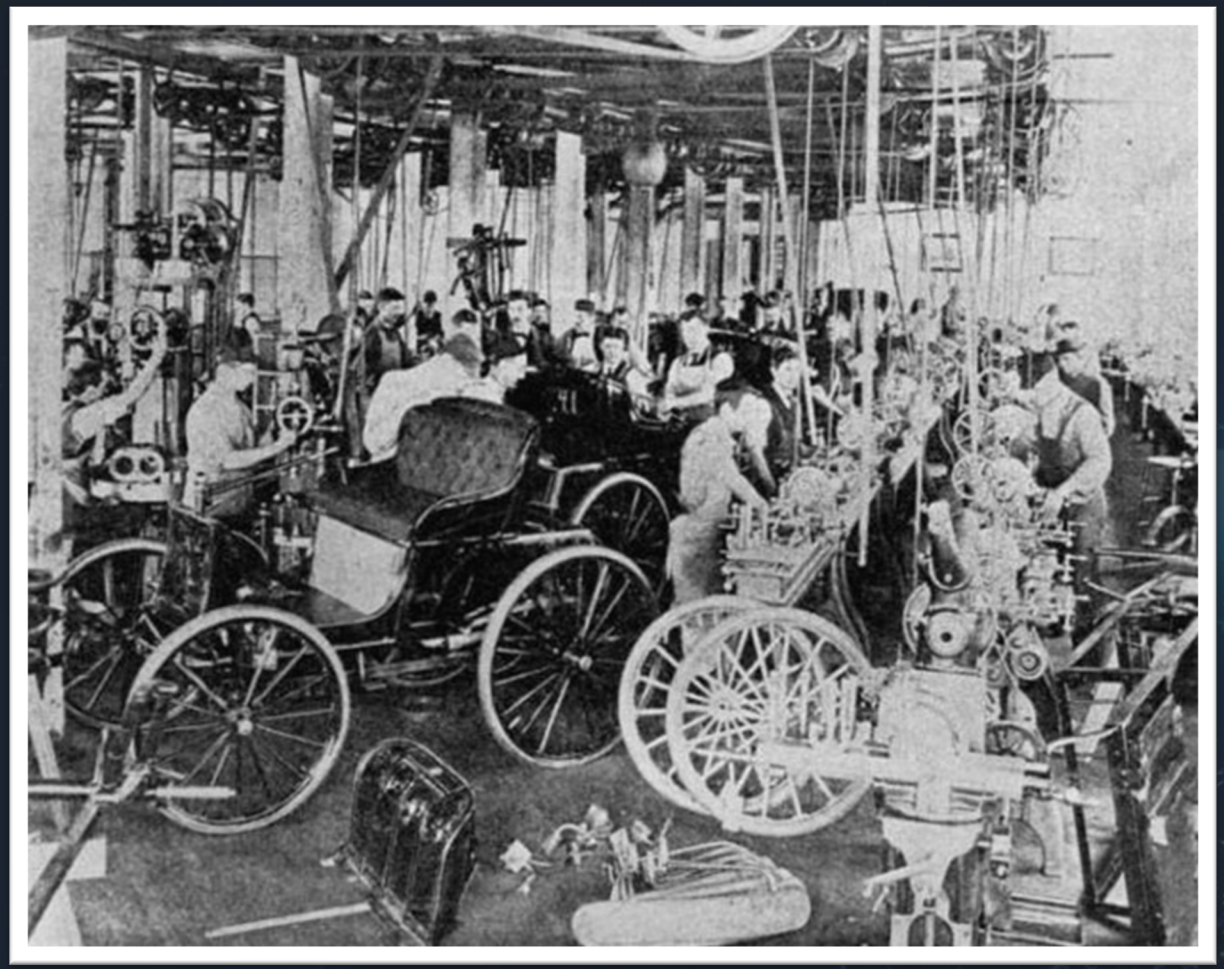
- **SPM/Prototype Ground (SDG)**
  Mr. Michael Masoner
- **SPM/Prototype Operations (SDX)**
  Lt. Col. Melissa Sawyer
- **SPM/Space Test Program (SDS)**
  Lt. Col. Brian Shimek
- **SPM/Space Safari (SDT)**
  Lt. Col. Lincoln Miller
- **SPM/Rapid Reaction Branch (SDR)**
  Lt. Col. Rachel Owen

SPD/vacant

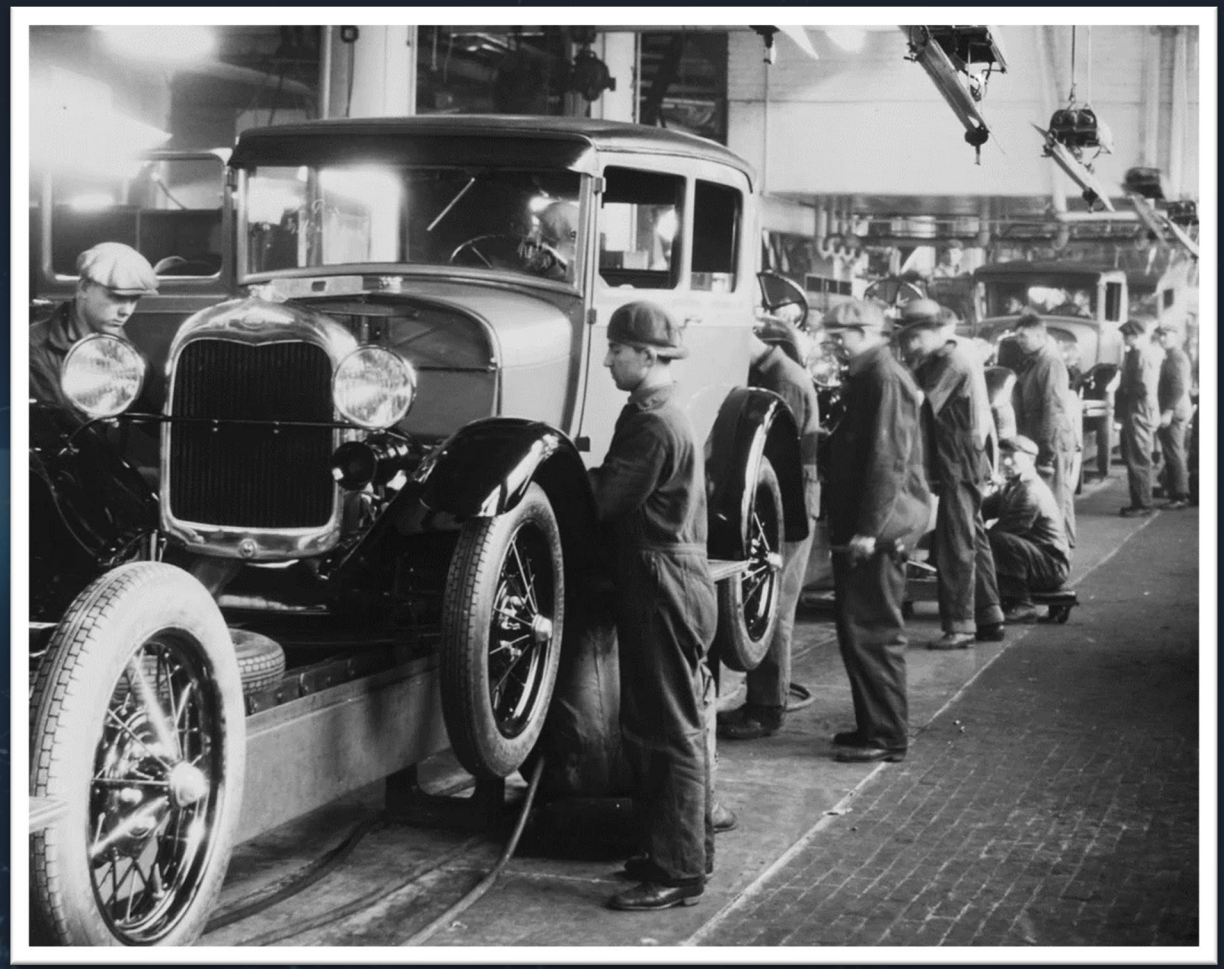
SPM/Space Based Interceptor (GD)
Lt. Col. Nicholas Milano

Space Acquisition Today

Industrial Changes



1896 - Duryea factory hand-building



1925 - Ford Model-T assembly line

Acquisition Changes

What is Commercial?

Self Service — "All commercial products… different commercial engagements" — Full Service

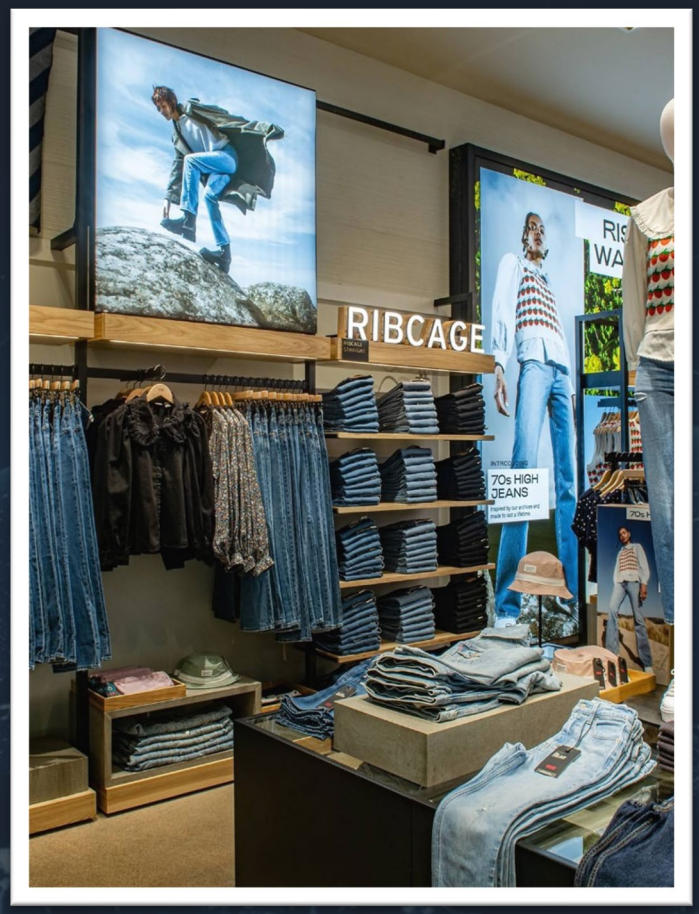
Home Laundry

Laundromat

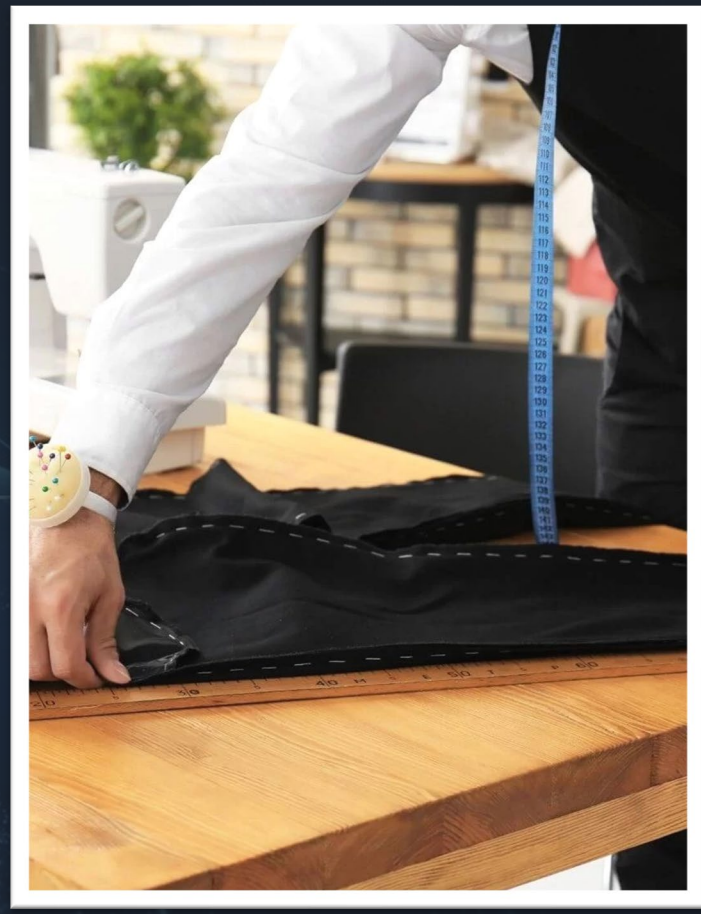
Dry Cleaner

Exploit, Buy, Build

Thrift Store

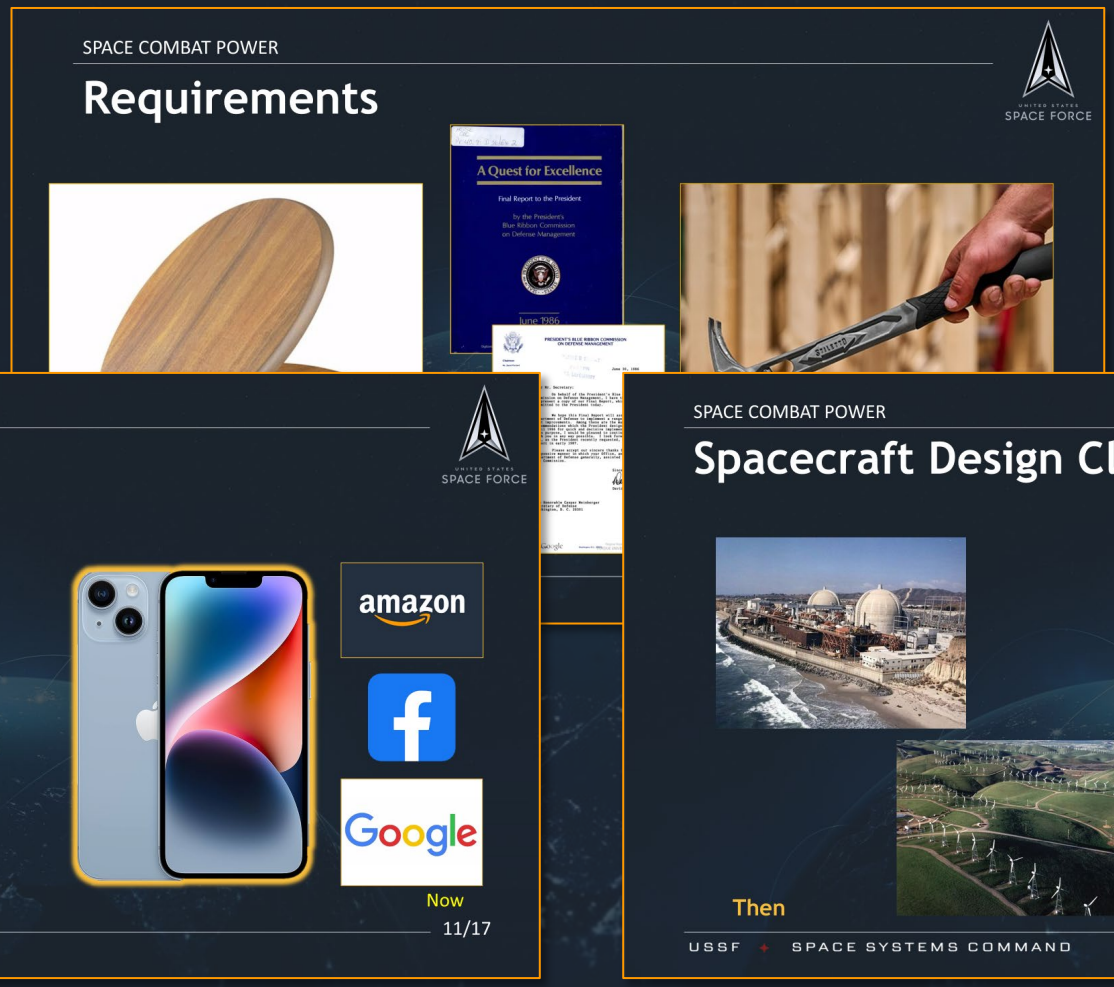


Department Store



Tailor Made

Think different



Handle Open System Architecture Update

- **2024 Industry Day Remarks**
  - Modular, open standards-based bus-to-payload interface electronics (data & power)
  - Prelim ICD available for industry review on 1 Dec 2024
    - Update: Received 14 requests before posting to DTIC
  - Exploring tech transfer options
    - Update: 20+ companies contacted Aerospace Corp for details
- **2025 Accomplishments**
  - 7 Mar 2025: 1st Payload Development Kit (PDK) delivered
  - 9 Jul 2025: Final ICD posted to DTIC
  - 21 Jul 2025: Engineering Development Unit (EDU) delivered
  - 30 Sep 2025: Contract award under SSC BAA for a commercial source
  - 9 Dec 2025: Inaugural industry alliance meeting w/16 participants
- **2026 Planned Milestones**
  - Q1: Commercial source version of Handle 2.0 ICD
  - Q1: Handle 2.0 software simulator available
  - Q2: Next industry alliance meeting (TBD, meet 3x yearly)
  - Q3: 1st commercial source version of PDK
  - Q4: 1st commercial source version of EDU

Handle EDU #1

Industry can get more information from Falcon ExoDynamics at prism@falconexodynamics.com

Fleet Management

Problem

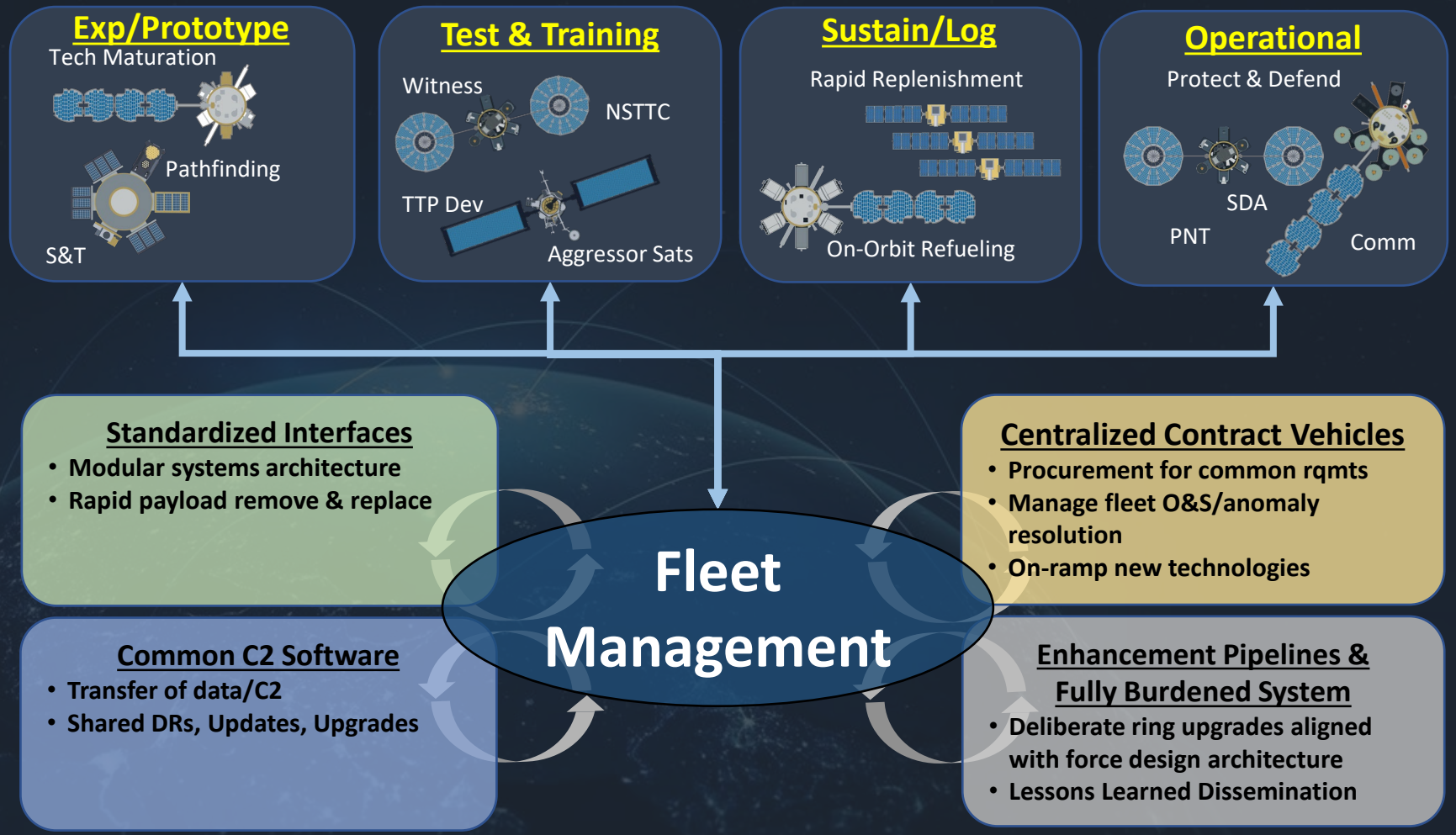
For one type of propulsive multi-manifest vehicle:

- 20 vehicles bought
- 6 acquisition orgs (waste of people)
- 9 contracting vehicles (waste of time)
- 7 ground systems/flight software baselines (waste of money)

Solution

Fleet Management

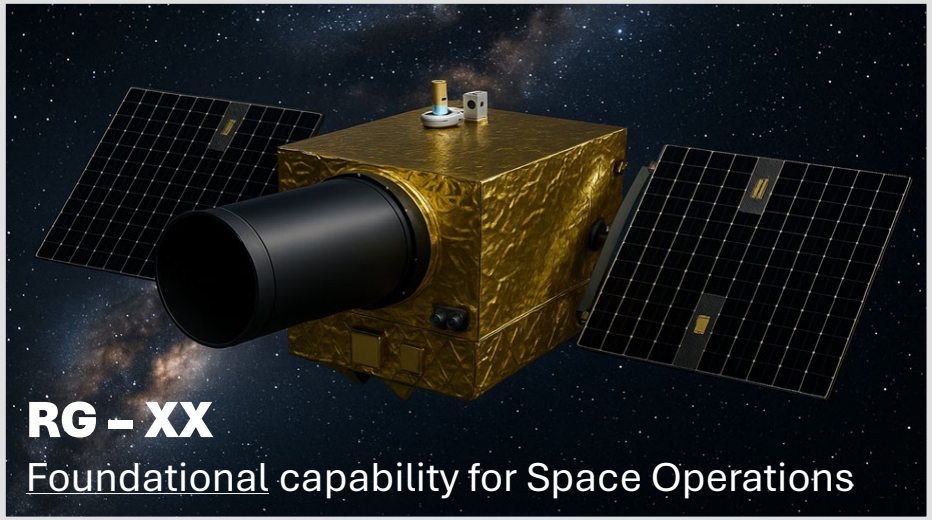
- Improved Competition
- Economies of Scale
- Faster acquisitions
- Focused upgrades
- Fleet-wide anomaly resolution



Program: RG-XX - Proliferated GEO SDA

RG-XX: Proliferated GEO constellation providing space-based SDA capabilities by 2030

- **Multiple award IDIQ RFP for Space Segment expected release Jan 2026**
  - **Informed by robust industry feedback**
  - **Focused on commercial best practices and industry driven solutions**
- **Acquisition goals: Rapid and affordable proliferation via:**
  - **Commercially available technology**
  - **Design life 3-5 years**
  - **Multi-manifest launches**



Industry Dates of Interest	
Jan 2026	Multiple award SV IDIQ RFP released
Feb/Mar 2026	Anticipated multiple IDIQ awards
Mar/Apr 2026	Build Phase Delivery Order (DO) Fair Opportunity Proposal Request (FOPR) Released to IDIQ awardees

EW Threat Integration Program (EWTIP)

EWTIP: Provides intelligence informed software capabilities against *new and emerging* threats to ensure Counter Communications System (CCS) and other Electromagnetic (EW) architectures maintain effectiveness against evolving adversary capabilities.

- **Pre-execution embedded Software Acquisition Path**
- **Creates opportunities for businesses to engage in new mission technique developments**

SAE TENETS: Use existing technology, Drive contractor scope to 3 years or less to deliver

Industry Dates of Interest	
RFP Feb26; Contract Apr26	X Band Antenna Add
RFI Feb26	Space EW Cognitive EA/ES Techniques
RFP Feb26; Contract Apr26	Phased Array Study
FOPR Mar26; Contract May26	Port Falcons

Space Electromagnetic Warfare Operating Location (SEWOL)

Mission: SEWOL will provide a cloud-native software solution to reduce manpower requirements and consolidate C2 into a single, modern interface. The system will provide an enterprise common operating picture and drive iterative workflow improvements for tactical mission planning, tactical scheduling, and remote command and control, that allow a single crew to dynamically manage and orchestrate hundreds of connected SEW systems.

Interested In: Establishing an enterprise Framework consisting of core SEWOL capabilities, standards, and interface definitions. EW system-specific modular application developers will connect existing weapon system C2 software to the Framework solution.

Note: SEWOL is a software acquisition pathway program and intends to leverage Other Transactions and Commercial Solution Opportunities.

Industry Dates of Interest	
2QFY26	SEWOL Industry Day (planned)
3QFY26	RPP release
4QFY26	Contract Award (Framework)

EW Sustainment

Enterprise-Level EW Sustainment

- Goal: Ensure operational readiness, threat relevance, and resiliency for all Space EW systems.
- Focus: System availability, enabling modernization, and building a resilient sustainment model.
- Shift: Moving away from a system-by-system approach to a unified enterprise strategy.

Acquisition & Pre-Acquisition Strategy

- Developing strategies and conducting market research to define future sustainment concepts.
- Intentionally challenging current sustainment norms through industry collaboration.
- Exploring non-traditional approaches to build a more robust and resilient strategy.

Industry Dates of Interest	
TBD	Phase 2: In-person "deep dive" on sustainment concepts
2QFY26	EW Sustainment Industry Day
TBD	Government will refine its operational concepts and strategy based on market research and industry feedback.

Hemisphere IDIQ Contract

Current Status:

- Hemisphere IDIQ will deliver Advisory and Assistance Services (A&AS) for System Delta 89 (SYD 89)
- New Gov't requirements for A&AS and IT services are being re-worked to enable Task Order Releases
- Updated Hemisphere IDIQ Schedule will be released End of Month January.

Industry Expectations:

- Task Orders will begin release shortly after updated schedule release
- Wide array of skills and expertise needed (Engineer Program Management, Finance, Staff Support, etc.)

Future Opportunities

- SYD 89 and Space Combat Power continues to grow, and Hemisphere is the contract to service all of them
- Legacy and new programs will transition to Hemisphere A&AS support

CY26 RFPs and Contract Awards

Program Name	Name of Planned Contract-2026	Target RFP Release (date)	Target Contract Award (date)	POC
EWTIP	LMA Band Additions	1QFY26	2QFY26	Lt. Col Jewell
EWTIP	Alternative Antenna Technology Studies	1QFY26	2QFY26	Lt. Col Jewell
EWTIP	MD3 Space EW Development Opportunity	1QFY26	2QFY26	Lt. Col Jewell
EWTIP	MD3 Space EW Development Opportunity	2QFY26	3QFY26	Lt. Col Jewell
EWTIP	Falcons Porting	2QFY26	3QFY26	Lt. Col Jewell
EWTIP	New Mission Development	3QFY26	4QFY26	Lt. Col Jewell
EW Sustainment	EW Sustainment	4QFY26	3QFY27	Lt. Col Jewell
RG-XX	IDIQ Award DO #1	January 2026	March 2026	Lt. Col Ng
SILENTBARKER follow-on	Study Contract (tentative)	4QFY26	4QFY26	Lt. Col Ng
Spectrum Warfare	Space-to-Space Comm BAA (call 1.1)	December 2025	2QFY26	Ms. Melanie Gipson
RDSMO	HADES (Hybrid Architecture and Development for Experimental Systems)	January 2026	December 2026	Lt Col John Purcell Ms. Alyssa Phillips
Space Test Program	STEP 2.0 Multi-award IDIQ On-ramp	Ongoing	May 2026	Capt William Newcomb
Space Electromagnetic Warfare Operating Location (SEWOL)	SEWOL Enterprise Framework	3QFY26	4QFY26	Maj Dennis Sieber

Thank You…

BATTLE MANAGEMENT, COMMAND, CONTROL, COMMUNICATION AND SPACE INTELLIGENCE

Decision Advantage at Speed and Scale

Ms. Shannon Pallone
PROGRAM EXECUTIVE OFFICER

January 2026

UNCLASSIFIED

BMC3I CAPABILITY AREAS

Space Domain Awareness

Rapidly detect, warn, characterize, and attribute both potential and real threats to national, allied, and commercial space systems

PROGRAMS

- Atlas
- Deep Space Advanced Radar Capability (DARC)
- Space Fence
- Space Surveillance Telescope (SST)
- GEODSS Upgrade - Ground-Based Optical Sensor System (GBOSS)
- SDA TAP Lab
- Upgraded Early Warning Radars (UEWR) including Ground-Based Radar Digitization (GBRD)
- Perimeter Acquisition Radar Attack Characterization System (PARCS)
- COBRA DANE
- Shared Early Warning System (SEWS)

SDA Secondary Mission Sensors

C2 - Battle Management

Deliver critical services and applications to warfighters for timely, quality driven battlespace decisions for the space domain fight

PROGRAMS

- Kronos
- NORAD Cheyenne Mountain Complex – Integrated Tactical Warning/Attack Assessment (NCMC – ITW/AA)
- Data Software Services
- Advanced Battle Management System (ABMS) and C3BM integration

Space Intelligence

Develop and integrate space intelligence capabilities supporting space superiority, at speed and scale

PROGRAMS

- Global Sensor Watch (GSW)
- TAPOUT
- Space TENCAP

Networks - Data Services

Enabling integrated enterprise network services, data transport, and full multi-domain data access

PROGRAMS

- Unified Data Library (UDL)
- meshONE-T (m1T)
- SDANet
- RedLAN
- Network Edge Transport System (ANETS)

Space Access - Satellite Control

Space mission dominance through sustainment and modernization of SatOps capabilities

PROGRAMS

- Satellite Control Network (SCN) Sustainment
- Antenna Services & Advanced Capabilities:
  - Joint Antenna Marketplace (JAM)
  - AFSCN Scheduling Tool (AST)
  - Enterprise Resource Manager (ERM)
  - Federal Augmentation Services (FAS)
  - Modularized Transitional Remote (MTR) Tracking Station family of systems

BMC3I

BATTLE MANAGEMENT, COMMAND, CONTROL, COMMUNICATION AND SPACE INTELLIGENCE

Our BMC3I Team

Following our recent System and Mission Delta stand-ups, our teams—including members from SSC and CFC—work together as a unified team with one shared mission.

PEO
Ms Shannon Pallone

DPEO
Mr Mike Sanjume

CTO
Mr Brian DeLong

MD 2

MD 2/CC
Col Barry Croker

SPD/CD
Col Gina Peterson

STS/CC
Col (s) Amber Johnson

MD 4

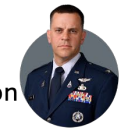
MD 4/CC
Col Aaron Cochran

SPD/CD
Col Randall Carlson

STS/Director
Ms Allison Guest

MD 31

MD 31/CC
Col Stephen Hobbs



SPD/CD
Col Justin Spring

STS/CC
Lt Col Kristin Ventura

Space DEL 7

SD 7/CC
Col Phoenix Hauser

Tech Director
Mr Kenneth Burnett

SYD 85

SYD 85/CC
Col Jason West

SPD/Battle Management (BM)
Col (s) Justin Overmyer

- **SPM/Space Defense & Theater Support (BMT)**
  Lt Col Brandon Keller
- **SPM/Advanced Space Battle Mgt (BMZ)**
  Lt Col Collin Greiser
- **PM/NCMC – ITW/AA (BMN)**
  Mr. Jeff Burnside

SPD/Space Access & Networked Services (BN)
Col Patrick Little

- **SPM/Antenna Services (BNA)**
  Lt Col Brian Kester
- **SPM/Global Mission Data Dominance (BNN)**
  Lt Col Devon Messecar

SPD/Battlespace Awareness(BA)
Col Dustin Guidry

- **SPM/GEO Sensing (BAS)**
  Lt Col Raquel Salim
- **SPM/LEO/MEO Sensing (BAL)**
  Lt Col Jimmy Dossett
- **PM/Foreign Military Sales & SEWS (BAF)**
  Maj Travis Pond

SPM/Space Intelligence (BI)
Mr. Gil Garcia

Our Ask of Industry

- Honest Dialogue - Tell us what we need to hear, not what you think we want to hear
- Operational Relevance is the measure of viability for our Minimum Viable Products (MVP's)
- Ease of Integration into the Enterprise is our Number One Discriminator
- Path to simplifying our Architectures
- Engage directly with the System Program Directors (SPDs) and System Program Managers (SPMs)

Opportunities to Engage

Conferences & Symposiums
Connect with us for 1:1 engagements with all levels of BMC3I leadership—sparking dialogue, fresh opportunities, and impactful industry connections.
YEAR ROUND

Industry Round Tables
Join our Industry Round Tables with senior leaders to tackle strategic challenges, shape solutions, and drive meaningful impact on issues that matter most.
BIANNUAL

CTO Engagement & Events
Engage with our CTO through Office Hours, Waffles on Wednesday, Wisdom Sessions, and Special Events—direct connections to share insights, build community, and help to shape the future.
WEEKLY

Upcoming Events

AFA Warfare Symposium / Feb26
Space Symposium / April26
AMOS / Sept26
Space Industry Days / Oct26
SFA Spacepower / Dec26

SCAN TO CONNECT & LEARN MORE

WWW.THECTO.SPACE/ENGAGE

Industry Opportunity / MD 2 — SNIPER

Name: Space Domain Awareness (SDA) Novel Innovation Pipeline for Enhanced Resilience (SNIPER)

Description of Effort: The MD2/2STS SNIPER process intends to support multiple-award prototype efforts for innovative software tools to improve existing Space Domain Awareness (SDA) systems. The intent is to take an existing solution via rapid prototyping from Technology Readiness Level (TRL) 5 up to TRL 8 in support of potential fielding into an operational baseline. Potential capabilities include but are not limited to machine learning (ML), automation, or other artificial intelligence (AI) applications or prototypes of applications for SDA.

Timeline:
RFI Opened/Closed for Response: 12 Sep - 06 Oct 2025
Draft RFP Release Date: TBD
RFP Release Date: TBD
Estimated Contract Award Date: TBD

Contract Value: $5-7M (3 years)
Contact Information: Lt Jared Burdett, SSC/MD2/2STS, jared.burdett.2@spaceforce.mil

Industry Opportunity / MD 2 — KOSMOSS

Name: Kill-Web Operations Sustainment & Maintenance of SDA Systems (KOSMOSS)

Description of Effort: KOSMOSS will enable sustainment, maintenance and modernization for current and future Space Domain Awareness (SDA) integrated mission systems owned by CFC's MD2. The stand-up of integrated Mission Deltas highlights the need to modernize and integrate systems that address "Kill Webs" and support SDA across the operational spectrum. The mission of MD2 is to discover, understand, and maintain custody of all activities in, from, and to space.

Timeline:
RFI Opened/Closed for Response: 23 Sep - 10 Oct 2025
Draft RFP Release Date: TBD
RFP Release Date: TBD
Estimated Contract Award Date: TBD

Contract Value: TBD
Contact Information: Victoria Lloyd, SSC/PKL, Victoria.lloyd@spaceforce.mil
Notice ID: SSC_BMC3I_SpOC_MD2_2STS_KOSMOSS

Industry Opportunity / SYD 85 — Kronos CSO

Name: Kronos Commercial Solutions Opening

Description of Effort: This CSO seeks to identify and leverage cutting-edge innovations that can enhance the effectiveness, scalability, flexibility, interoperability, and resiliency of the Kronos program in alignment with the evolving operational needs of US Space Force (USSF) missions. Kronos provides integrated software for Battle Management, Regional and Global Command and Control, and Space Intelligence in support of Space Superiority. This is the Software Pathway Program of Record for USSF and will migrate existing software, integrate commercial solutions, and on-ramp innovative capabilities into an operational family of systems to give USSF warfighters decision dominance in the space domain.

Timeline: (all dates are estimates)
CSO Release Date: 31 Oct
Initial Pitch Period: Nov-Dec
Estimated OT Awards: 15 Jan

Contract Value: TBD
Contact Information: PM: Lt Col Collin Greiser, collin.greiser@spaceforce.mil

Industry Opportunity / SYD 85 — GBRD

Name: Ground Based Radar Digitization (GBRD)

Description of Effort: GBRD is enhancing six Ground Based Radars, including five Upgraded Early Warning Radars (UEWRs) and the Perimeter Acquisition Radar Characterization System (PARCS). GBRD will significantly improve Space Domain Awareness (SDA) by enhancing detection, tracking and characterization of threats while improving system availability, reducing sustainment costs, and extending the operational life of these critical assets. The program will leverage a government-owned, open-architecture approach to replace failing and unsupported legacy hardware with modern, scalable components.

Timeline:
RFI Released: Aug 2025
RFP Tentative Release Date: 1QCY26
Estimated Contract Award Date: 2QCY26

Contract Value: TBD
Contact Information: PCO: Tracy Anderson, tracy.anderson.4@spaceforce.mil

Industry Opportunity / SYD 85 — Data Federation

Name: Space Force Data Federation

Description of Effort: Transform the Space Force's data infrastructure from isolated, monolithic systems into a unified, distributed ecosystem (data access, not storage) that accelerates decision-making and operational agility.

SYD 85 seeks solutions for a cloud-based, containerized, and/or serverless multi-classification data dissemination platform to access and manage data that supports USSF operational systems, while avoiding exponential growth in point-to-point connections. A key objective of this effort is to field a platform that includes the following capabilities to support machine-to-machine multi-domain operations, superior analytics, planning, and decision-making.

Timeline:
RFI Release Date: Jan 2026
RFP Release Date: TBD
Estimated Contract Award Date: TBD

Contract Value: TBD

Contact Information: SPM: Lt Col Devon Messecar, devon.messecar@spaceforce.mil

Industry Opportunity / SYD 85 — Solicitation Timeline

Kronos

CSO Release Date: 4QCY25
CSO Pitch Period: Jan 26
Estimated Contract
Award Dates: 1QCY26, 2QCY26

GBRD

RFI Release Date: 4QCY25
RFP Release Date:
Tentative —1QCY26

COBRA DANE

RFI Release Date: 3QCY25
RFP Release Date:
Tentative — 1QCY26

Space Intelligence

RFI Release Date: 1QCY26
RFP Release Date: 3QFY26

21 Comm Squadron (NCMC-ITWAA)

RFI Release Dates:
1QCY25, 2QCY26
RFP Release Date:
3QCY26

We

We

Break Sponsor

Delivering Next Generation Capability to the Warfighter

Dr. Russ Teehan

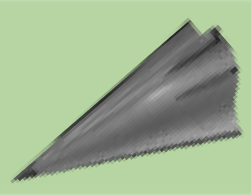
Technical Director, SDA

January 23, 2026

Semper Citius

SDA
SPACE DEVELOPMENT AGENCY

SDA Overview



Hypersonic and advanced missile threat warning and tracking

Air Moving Target Indicator (AMTI) for detection and tracking of airborne platforms

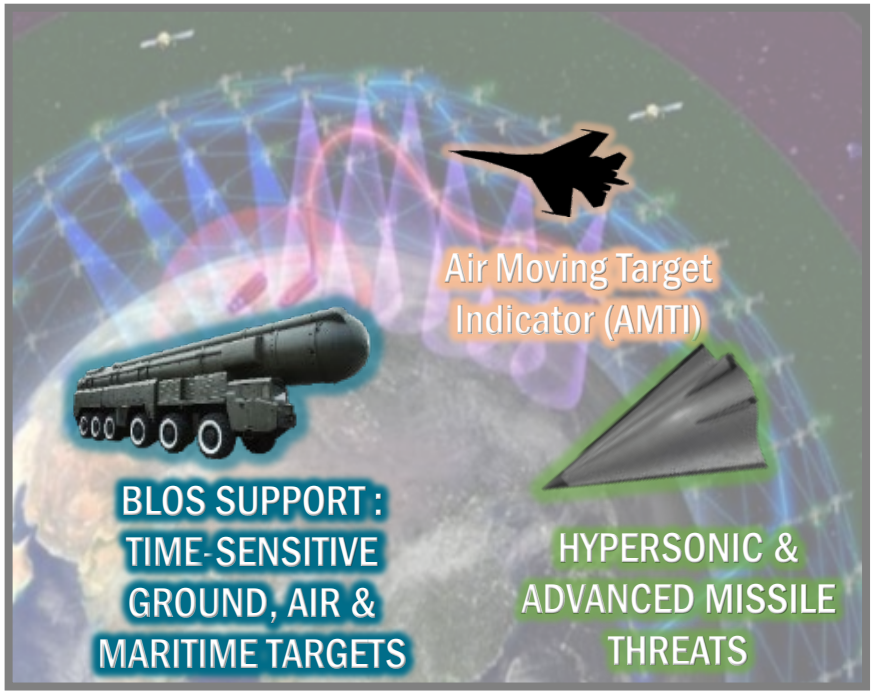
Beyond-Line-Of-Sight (BLOS) targeting for time-sensitive ground, air and maritime targets

SDA's architecture endeavors to:

- Detect, Track and Identify threat systems
- Develop and Distribute targeting solutions directly to warfighters

...to close kill chains at a currently unattainable pace

Acquire and Field a multi-vendor, proliferated, low-earth space architecture through 2-year tranches ahead of the threat!



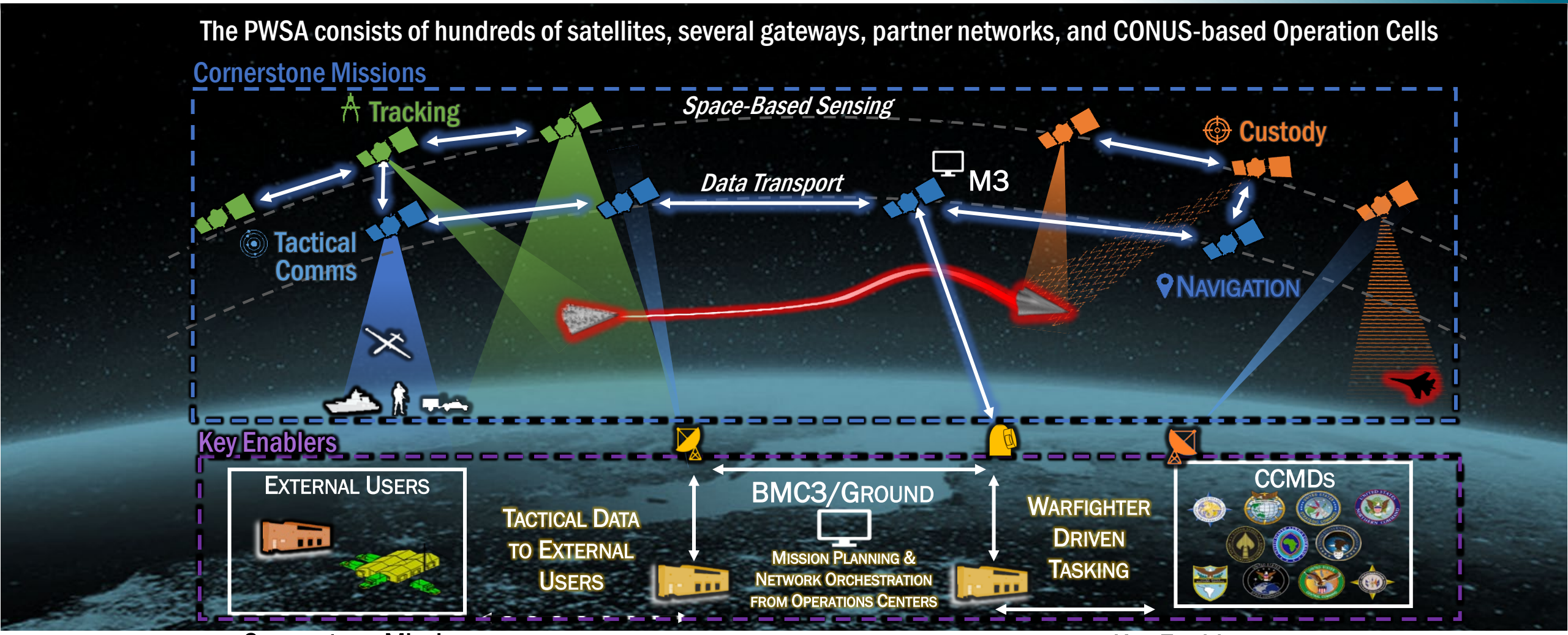
Resilient Sensing + Tactical Communications Integrated into USSF / Multi-Domain Architectures

Talk Overview: 1) Architecture Overview, 2) Tranche 1 Update, 3) Future Plans, 4) Opportunities for Collaboration

PROLIFERATED WARFIGHTER SPACE ARCHITECTURE (PWSA)

A GLOBAL WARFIGHTING CAPABILITY

The PWSA consists of hundreds of satellites, several gateways, partner networks, and CONUS-based Operation Cells



Cornerstone Missions

- Comprehensive Space-based Sensing Tracking & Custody -
- Real-time Global Connectivity & Tactical Communications -
- Resilient Position, Navigation and Timing in GPS-denied areas -

Key Enablers

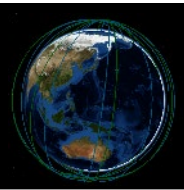
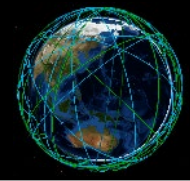
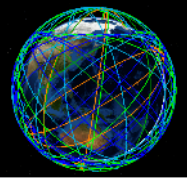
- Secure, Resilient, Globally Connected BMC3/Ground Network -
- Dynamic Mission Planning, Tasking, Routing, Provisioning -
- Distributed Data Architecture with tailored edge solutions (M3) -

PWSA Warfighting Capabilities

Incremental Delivery of Warfighting Capability

Methodology

Conduct *Warfighter Immersion (WFI)* demonstrations → Deliver **Initial** *Warfighter Capability (IWC)* → *Enhance and Proliferate capability* → *Replenish* capability as systems age out and provide tech refresh and enhance

		Regional Persistence *Tranche 1*	Global Persistence *Tranche 1 + Tranche 2*	Sustained Persistence *Tranche 2 + Tranche 3*
Cornerstone Missions				
MWTD	**MW/MT**– Persistent, global detection and tracking of advanced missile threats	IWC	Enhance	Enhance + Replenish
	MD – Fire-control-quality targeting solutions for missile defense systems	Operational Integration	IWC	Enhance
Custody	**Strauss AMTI** – All-weather 24/7 custody of time-sensitive airborne targets	N/A	WFI	IWC
Tactical Communications	**TACSATCOM** – UHF and S-band comm links	N/A	IWC	Enhance
	IBS-L – pLEO-based broadcast of mission data warfighters via existing UHF terminals	N/A	IWC	Enhance
	Link 16 – BLOS exchange of mission data with via existing L16 terminals	IWC	Enhance	Enhance + Replenish
	Tactical Data Transfer – High-throughput comms (Ka-Band, Optical) to Theater	IWC (Ka) / WFI (Optical)	Enhance (Ka) / IWC (Optical)	Enhance + Replenish
Assured PNT	**Resilient PNT Support** – Delivery of PNT solutions in GPS-denied environments	IWC	Enhance	Enhance + Replenish
	GNSS Situational Awareness – Detect/report on GNSS jammers	IWC	Enhance	Enhance + Replenish
Key Enablers				
BMC3/Ground	Dynamic mission planning, network operations → enhanced autonomy, direct theater support	Routine, OC-Focused	Dynamic, Ad Hoc	Direct-to-Theater Ops, Limited Autonomy
Space Enterprise Integration	**Enhance Connectivity** → enhanced bandwidth, multi-path resilience, and enhanced edge platform and theater connectivity.	CONUS-Focused (MDA, RTS, DISA)	Theater-Focused (Enhanced Ground)	Expanded Integration (SDN, DAF Network)

MW/MT/MD (or 'MWTD'): Missile Warning, Missile Tracking, and Missile Defense

Deployed Operational Capability

In Planning with multiple mission partners

Tranche 1-3 Adv Missile Defense / Tactical Comms enhancements focus on improved tactical/theater latency, bandwidth, and reach. Ground/BMC3 enhancements focus on support to dynamic ops (e.g. ad-hoc tasking) and Space Data Network connectivity.

SDA 2025 Year in Review

Warfighting Capability Delivery

Tracking

Successful multi-vendor, multi-plane collection capability demonstrated with Tranche 0 SVs.

Custody

Advanced Fire Control (AFC) program demonstrates readiness for SDA Strauss program activities.

Tactical Comms

Demonstrated communications to unmodified maritime, air, & ground existing terminals.

T1DES 'Proto' launched to demonstrate TACSATCOM.

Optical Links

Established routine, bi-directional, space-to-space and space-to-ground optical communications with T0 SVs.

Achieved bi-directional optical/laser communications from space to moving aircraft.

Acquisition Excellence

30+ agreements completed in 2025 valued at more than **$3.8B.**

$300M Awarded to small businesses in FY25, including 40 new Phase I & Phase II SBIR efforts.

T3 Tranche 3 Tracking Awards Complete.

PWSA

SDA's Spiral Development Model Spans the Full Spectrum

On Orbit: T0
Launching: T1
In Build: T2
In Planning: T3

Warfighter Integration

Tranche 3 Warfighter Concurrence

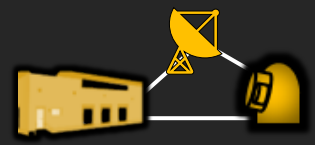
Warfighter concurrence received for PWSA Custody Layer Tranche 3 minimum viable capability (MVC).

Talisman Sabre 25

SDA participation in Talisman Sabre led to successful demonstration of BLOS capability with Tranche 0 SVs.

PWSA Technical Execution and Delivery

Tranche 1 begins launch campaign.



SDA Ground Segment readiness established for Tranche 1.

BMC3 Application Factory MVP achieved. Mission application in development.

T1 Launch Success Summary

SDA Successfully Began Launching Satellites For Tranche 1 in Summer of 2025

T1 Launch 1

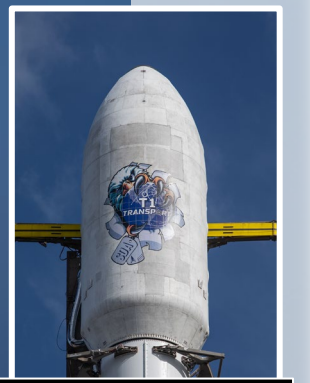
Payload Stack of T1TL SVs (York) at PPF

T1TL Launch #1 Payload Faring

First Transport Layer Tranche 1 satellites (21) launched September 10, 2025 ~7:12 am PT followed by success delivery to low Earth Orbit.

T1 Launch 2

Payload Stack of T1TL SVs (LM) at PPF



TLT1 Payload Faring

21 Additional Transport Layer Tranche 1 satellites launched October 15, 2025 ~4:06 pm PT followed by successful deliver to low Earth orbit.

Tranche 1 Launch & Fielding Campaign Continues Throughout 2026

Photo Credit: SpaceX, York Space Systems, Lockheed Martin

PWSA Tranches at a Glance

SDA
SPACE DEVELOPMENT AGENCY

PWSA

Legend

Communications Systems
S-band TT&C
IBS-LEO
K_A
Link 16
Optical
UHF TACSATCOM
S-band TACSATCOM

Sensing Payloads
GNSS SA
IR MW/MT
IR MTD
Custody

Processing Payloads
M3

Tranche 1: Launching/Fielding

28 WFOV Tracking SVs (4 Planes, MWTD)
3 OCTs
IR MW/MT Payload
K_A
STTC
Northrop Grumman
L3Harris

4 MFOV Tracking SVs (4 Planes, MTD)
2 OCTs
K_A
MFOV IR Payload
STTC
Northrop Grumman
L3Harris

126 Transport SVs (6 Planes, BLOS)
4 OCTs
BMC3
Link 16
K_A
STTC
York
Northrop Grumman

Launching through 2026

Tranche 2: In Build, ILC 2026

T2 Tracking Mw/MT
48 SVs/ 6 Planes
Resilient Global MW/MT
L3Harris
Sierra
Lockheed Martin
3 OCTs

T2 Tracking-MD/FC
6 SVs / 6 Planes
Preliminary Missile Defense
L3Harris
Sierra
Lockheed Martin
3 OCTs

TLT2 Alpha
100 SVs / 10 Planes
Resilient Global Link-16
York
Northrop Grumman
4 OCTs

TLT2 Beta
72 SVs / 6 Planes*†
18 SVs / 2 Planes*
*Global TACSATCOM
†IBS Broadcast
Northrop Grumman
Rocket Lab
Lockheed Martin
3 OCTs

Tranche 3: In Acquisition Planning

TRKT3 MW/MT
36 SVs/ 4 Planes
Resilient Global MW/MT
Lockheed Martin
Rocket
3 OCTs

TRKT3 MWTD
36 SVs / 4 Planes
Global MW, MT, and Missile Defense
Northrop Grumman
L3Harris
3 OCTs

CLT3*
TBD SVs / TBD Planes
All-weather 24/7 Custody of Time Sensitive Targets

TLT3* Lambda
~80 SVs / 8 Planes
Advanced Global Link-16

TLT3* Upsilon
~40 SVs / 4 Planes
Global TACSATCOM
Global Legacy Broadcast

TLT3* Sigma
~20 SVs / 2 Planes
Advanced S-band TACSATCOM

IR Missile Warning and Tracking with Global Access

SDA Strauss Detection of Airborne Targets

Direct downlinks to theater targeting cells

Beyond line-of-sight tactical data link connectivity

Low-latency high-volume data transport with optical cross-links

Secure multi-domain optical communications

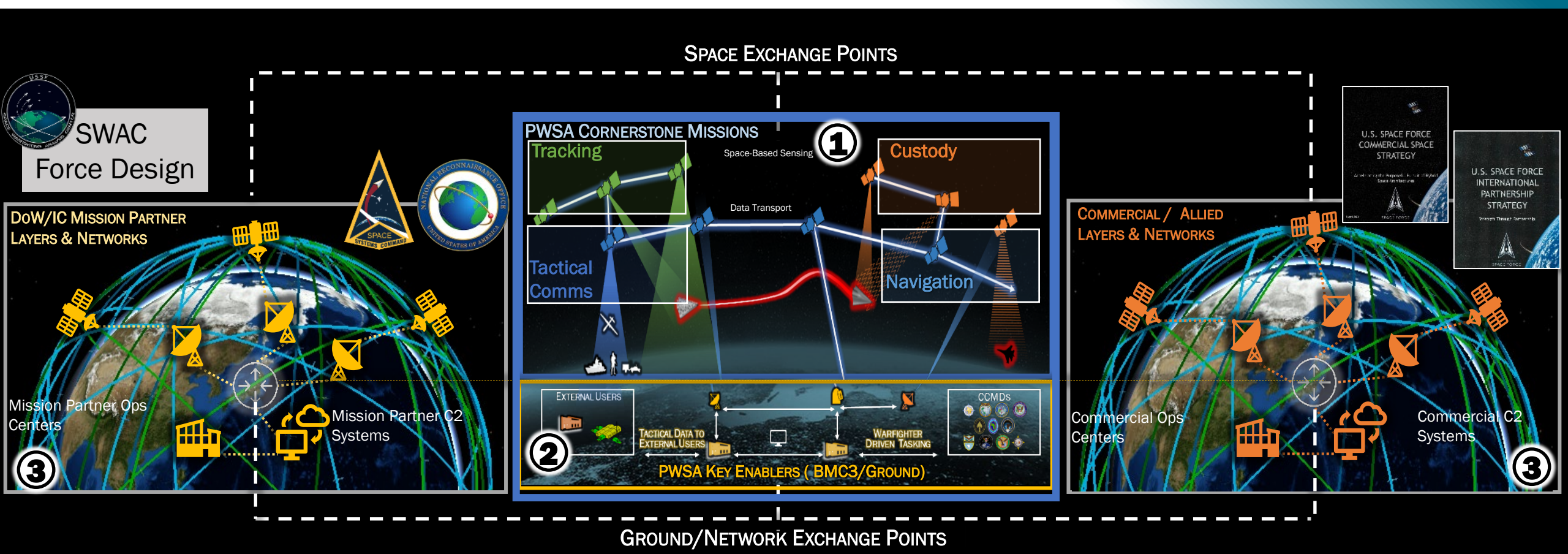
Enterprise, Network, and Mission Operations from Two Operations Centers

BMC3 mission enhancements

SAIC
General Dynamics Mission Systems
iridium

Approved for public release

PWSA Future Capability Enhancements



Enhancement Categories

1. Enhance PWSA "Dedicated" Cornerstone Missions → Mission Enhancements & Future Missions
2. Enhance PWSA Key Enablers (BMC3/Ground) →Dynamic/Resilient Network Operations
3. Enhance PWSA "Connected" Space Enterprise Cross-PEO / Cross Kill-Chain Interoperability

SDA Capability Enhancements

Cornerstone Missions ①

Tracking

- **Advanced Sensing**
  Alternative IR bands (e.g. LWIR, multi-spectral)
  Automatic Target Recognition
- **Multi-mission & Adv Phenomenology**
  Multi-mission sensors (sensing, comm, etc.)
  Future phenomenologies
- **Multi-Layer Data Fusion & Hand-off**
  Fusing multi-layer data at edge (Theater, Space, AI/ML)
  Autonomous tip & cue and multi-sensor/layer ops

Custody

- **Advanced Sensing**
  Advanced phenomenologies & multi-mission
  Multi-layer optimization (task, hand-off)
- **Dynamic Mission Planning**
  Direct Theater Support (Tasking, Data Delivery)
  Adv Mission Planning (Custody Msn Manager)
- **Data Fusion**
  Multi-source / layer data fusion (AI/MIL)
  Hybrid architectures (Commercial/Allied Support)

Transport

- **Advanced Tactical Comms (RF/Opt)**
  Adv Optical Space-to-Terrestrial (fixed, mobile)
  Adv RF waveforms
- **Hybrid Commercial Architectures**
  Commercial (Dual-Use) Narrowband/5G
  Embedded waveforms / services
- **Connected Cml/Allied Enclaves**
  Multi-Enclave/Network Orchestration
  Zero trust, tactical enclaves

Navigation

- **PNT Situational Awareness**
  Cloud-based, pub-sub Global PNT SA tools
- **Commercial Alt-Nav**
  Integrating connected commercial Alt-Nav sources for PNT resilience
- **Alt-PNT**
  PNT-over-Comm services to disadvantaged users

Key Enablers ②

Ground / Battle Management

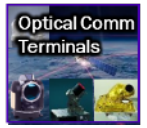
- **Dynamic PWSA Network Operations**
  Dynamic Mission Planning and Data Routing to support theater and edge node-based Ad Hoc tasking and autonomous ops
- **Dynamic Space Ops (SAML)**
  Retire commercial "De-Orbit as a Service" for PWSA satellites
  Enhance maneuver and dynamic constellation management

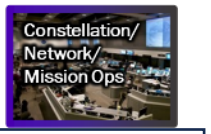
Enterprise Integration ③

Space Enterprise Integration

- **Support Joint Cross Kill Chain / Multi-domain Demos**
  Retire cross-kill chain risks in support of Joint Ops (e.g. INDOPACOM, Theater Missile Defense, Service Tactical Comms, etc.)
- **PWSA-to-Space Data Network Interoperability**
  Enhance PWSA Missile Defense / Tactical Comms support to warfighter through tandem PWSA-SDN operations
- **Hybrid Kill Chain Integration**
  Integrate commercial/allied partners into hybrid kill chains.

SDA TECHNOLOGY DEVELOPMENT PORTFOLIOS





Summary of FY25 Activities and Planned 2026 Efforts

STEC BAA Special Notices

- PWSA Ground Segment and AppFac Studies
- Advanced Missile Defense Risk-Reduction Studies
- De-Orbit As A Service Studies
- Network Orchestration

SBIR 24.3 + 25.4 + Future Topics

- Multi-Source Data Fusion
- De-Orbit Services
- Adv. Test & Eval Frameworks
- MS&A/Digital Engineering
- Affordable IR Sensors
- Ops Cell Train & Ops Tools
- Dynamics Tasking/Routing
- Space-to-Space Secure Enclaves

HALO

- Europa (Resilient Comm -- Adv. Waveforms)
- Space Data Network (SDN) Risk Reduction Efforts
- In-work (Alt-PNT, Adv. Optical, Space Edge)

Tranche Experimentation

- Early Use Warfighter Immersion Demos – LRNFO, Steel Reef, Skyfire, etc
- Planned support to theater operational exercises – VS26, NF26, etc

PARTNER EFFORTS – DIU, AFRL RAPID, SSC/NRO, Labs (AFRL/ARL/NRL), …

SDA TECH MATURATION/ RISK REDUCTION ECOSYSTEM DRIVES RAPID TECH INSERTION INTO FUTURE TRANCHES

SUMMARY

- SDA is actively launching/fielding Tranche 1 and now active in operations, acquisition, planning and capability enhancements across Tranche 1 – Tranche 3
- SDA is partnering with multiple mission partners and industry teams to enhance capability in three areas
  - Future Capabilities
  - BMC3 Enhancements
  - Space Enterprise Integration
- SDA is seeking future capabilities through:
  - STEC BAA
  - SBIR/STTR → TACFI/STRATFI
  - HALO
  - Tranche Experimentation
  - Mission Partner Prototypes
- Contact us
  - https://www.sda.mil/opportunities/

SEMPER CITIUS

In Latin, it means “always faster.” SDA recognizes that good enough capabilities in the hands of the joint warfighter sooner may be better than delivering the perfect solution too late. Because of this, it means we as an agency accept a higher level of risk, employ novel business models, and move to develop and field capabilities more quickly than you might see in “traditional” government agencies. We believe this builds resiliency into our people and our product—the Proliferated Warfighter Space Architecture.

When we say “semper citius,” we mean that we are moving at or ahead of the speed of the threat because we know the joint warfighter is counting on us.

ODYSSEY

odysseyconsult.com

Space Deployable Cross Domain Solution & AI Data Integrity

John N. Carbone, PhD
Senior Technical Director
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(214) 208-3311 (m)

Jeff Janicik
Chairman of the Board & Founder
jjanicik@innoflight.com
(858) 332-0970 (o)

Jason Hanslovan
Space Business Development Lead
jason.Hanslovan@everfox.com

Michael Clark
Space Business Development Lead
Mike.clark@everfox.com

EVERFOX

INNOFLIGHT

Who is Everfox?

- **25+** years operationally proven defenders of the most critical data, networks, and complex cyber threats from the most determined adversaries,
- Global Leaders in Cross Domain Access, Transfer, and Insider Risk Solutions,
- Award winning CDR, HardSec, and AI Platform and Data Integrity “Zero Day” protections,
- Relentlessly accredited, vetted, and validated to the highest NSA standards,

EVERFOX

Who is Innoflight?

After 20 years, Innoflight continues to revolutionize the space industry and excels in modular, high performance, and low Size Weight and Power (SWaP) hardware and software solutions with successful flight heritage in multiple orbits

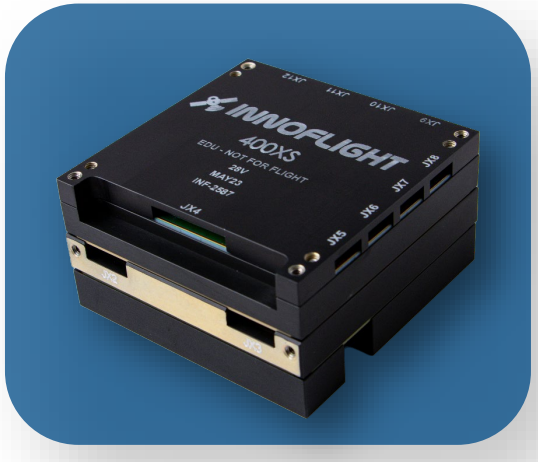
Software-defined Compact Radios

Ethernet Switches

IP/MPLS Routers

End Cryptographic Units (Point-to-Point & Mesh Network HAIPE®)

CyberDog™ Software Suite



GPP / GPU / AI/ML Processors

Data Storage

Payload Interface Electronics

INNOFLIGHT

BLUF: What we are here ?

Current Space Status:

- *Completed initial integration of Innoflight's proven TRL-9 Space qualified, space operational, small form factor 3U SpaceVPX hardware*
- *With Everfox's proven TRL-9 NSA RTB 4.2 qualified Cross Domain Solution software*

GPU-based Compact Flight Computer CFC-510P

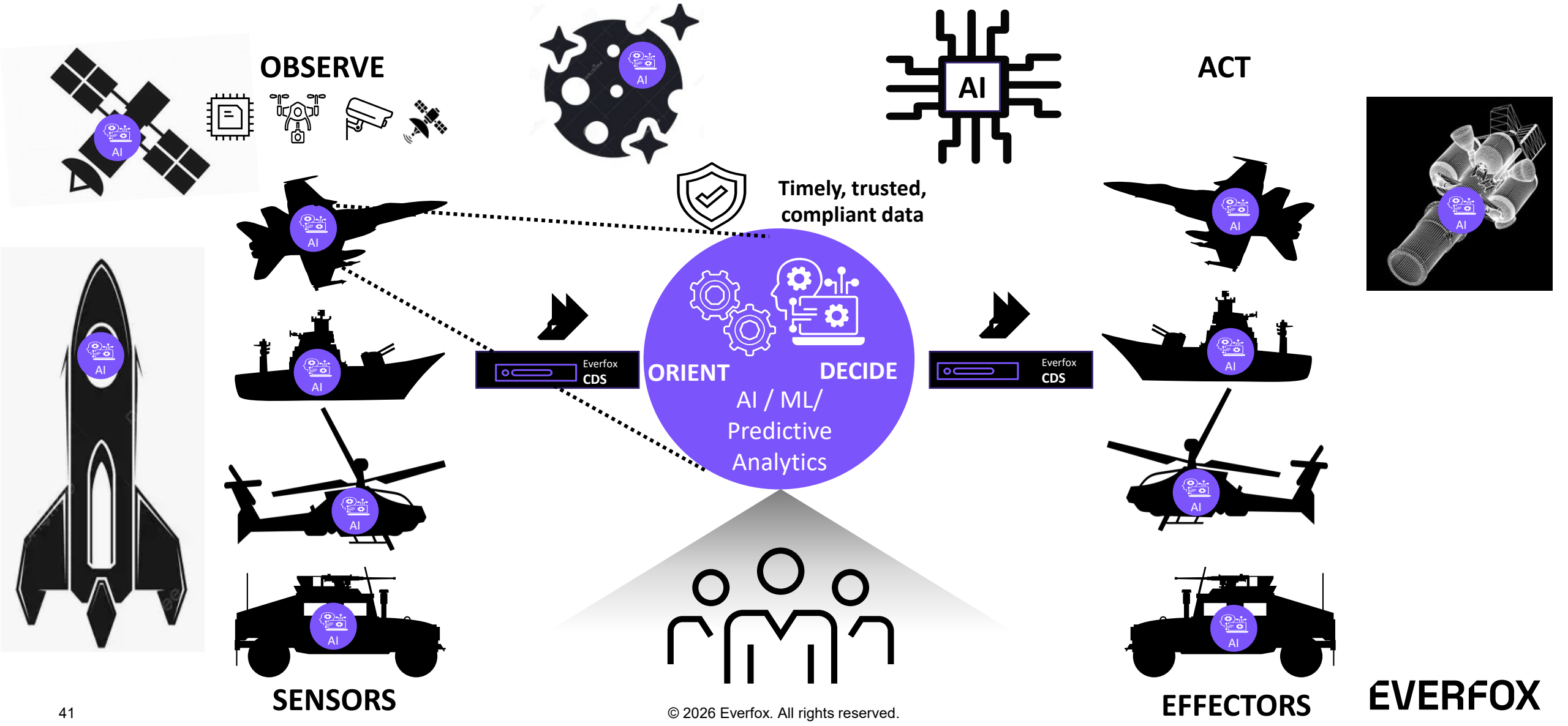
The Dedicated Team:

- *Decades of legacy space security hardware, crypto, global enterprise and tactical Cross Domain, and accreditation experience*

INNOFLIGHT EVERFOX

Terrestrial or Extraterrestrial AI Data Integrity Protection

Poisoning, Model Manipulation, Autonomous Malware, Etc.



EVERFOX

ORGANIZATIONAL ACTIVITIES

Industry

- Gathering and sharing information on aerospace business opportunities
- Networking with other member professionals

Community

- Serving the community in the greater Los Angeles area
- Serving military organizations in and around Space Systems Command
- Supporting relevant charitable organizations

Open Forum

- Exchange information among aerospace BD professionals
- Engage with senior government and military officials responsible for National Security Space

INTERACTIONS WITH DECISION MAKERS

Luncheons

- Monthly luncheons featuring presentations and dialogue with Space Systems Command and other Space Force and DoD leadership

Focus Areas

- System acquisition and procurement
- Policy changes
- Space doctrine and tactics
- Evaluation of military space systems

Business Insight

- Updates on current opportunities for the local aerospace market
- Details about upcoming business opportunities

RECENT SPEAKERS

Col Patrick Little
Senior Material Leader
Tactical C3 Delta

Mr. Arthur Grijalva
Director
SpaceWERX

Col Corey Klopstein
Program Executive Officer
Orbital Test and Training Infrastructure (OTTI)

Col Andrew Menschner
Commcommander
Mission Delta 31 (PNT)

Col Peter Mastro
Lead – Concept Development
Space Domain Awareness and Combat Power

Col Matthew Spencer
Commander
PNT System Delta

Mr. Michael Dolan
Deputy Program Executive Officer
Space Sensing

Col Scott Klempner
Deputy Program Executive Officer
Space Combat Power Systems

Lt Gen Phillip Garrant
Commander, Space Systems Command

Col Tim Trimailo, Director of the Commercial Space Office at Space Systems Command, scheduled for February 2026.


LOCKHEED MARTIN

Space Industry Days: MILCOM & PNT

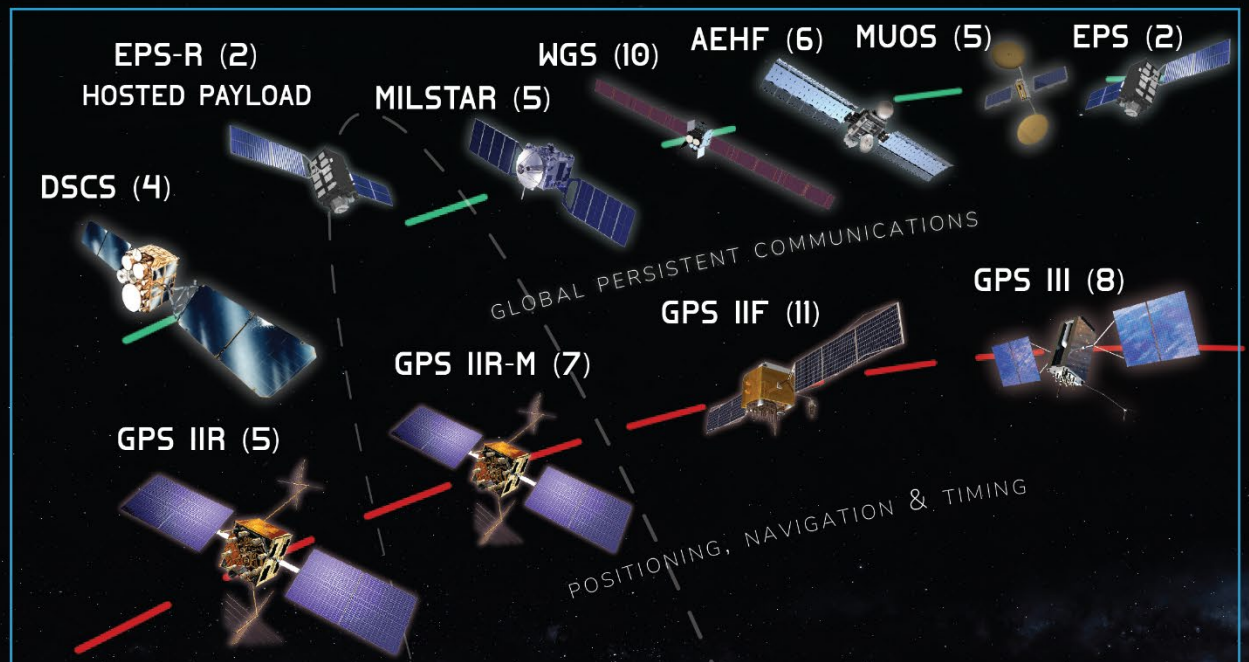
23 January 2026

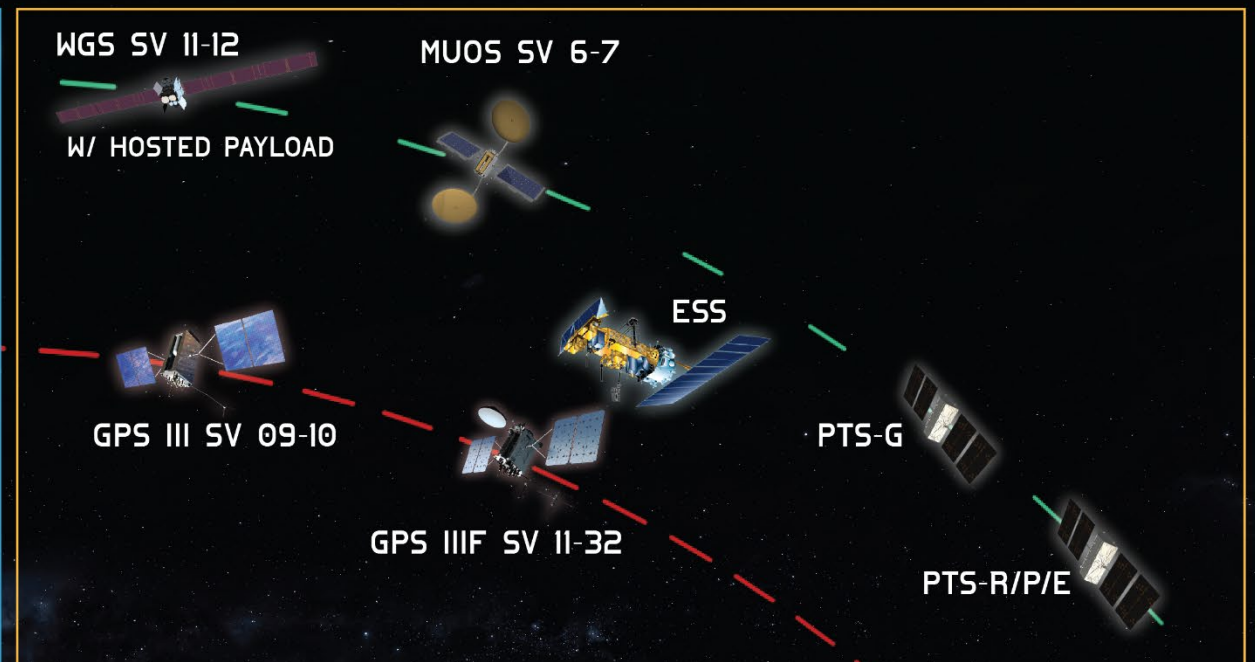
Ms. Erin Carper
PEO for MILCOM & PNT
Space Systems Command
U.S. Space Force

PEO Mission Area

- The Military Communications (MILCOM) & Positioning, Navigation, and Timing (PNT) Program Executive Office (PEO) is the Space Systems Command (SSC) organization focused on developing, producing, delivering, and maintaining critical and innovative Satellite Communications & PNT systems

- The Program Executive Officer for MILCOM & PNT has acquisition authority and accountability within the mission area and manages all points of the acquisition life cycle, including:
  - Acquisition Planning & Innovation
  - Prototyping & Development
  - Integration & Testing
  - Transition to Ops & Sustainment





Programs in Sustainment

Programs in Development/Production

Terminals

AFWET
AIRBORNE INTEGRATED TERMINAL GROUP
GROUND MULTI-BAND TERMINAL

GPS USER EQUIPMENT: MILITARY 2+ MILLION / CIVIL 6+ BILLION

Ground Systems

AEHF & WGS GROUND
GLOBAL BROADCAST SERVICE
GPS INFORMATION NETWORK (GIN)
LAUNCH, ANOMALY, AND DISPOSAL OPERATIONS (LADO)
SAASM MISSION PLANNING SYSTEM (SMPS)
MUOS GROUND
OCS/AEP
CAPS

GRIFFON
OCX
OCX 3F
PTES
EM&C ENTERPRISE
GLOBAL SATCOM CONFIGURATION CONTROL ELEMENT (GSCCE) FOR WGS

User Equipment

A3M
GPS UE FMS

MILCOM & PNT PEO, SYD 88, and SYD 831 Leadership Teams

as of Jan 2026

PEO & PEO STAFF

Ms. Erin Carper
Program Executive Officer

Ms. Charlotte Gerhart
Deputy Program Executive Officer

Maj. Adam Rich
Chief of Staff

Vacant
IMA to the PEO

Mr. Marcus McInnis
Director of Engineering

Mr. Lucas Sprenger
Chief Financial Officer

Ms. Wendy Gonzales
Director of Acq Logistics

Mr. Roy Lee
Director of Contracts

MILSATCOM

System Delta 88

Col. Albert 'AJ' Ashby
Commander

Ms. Katherine Coens
SPD Narrowband SATCOM

NX

Col. Ryan Rose
SPD Strategic SATCOM

SX

Lt. Col. Rich Lanser
Acting SPD Tactical SATCOM

TX

Mission Delta 8

Col. Jeffrey Weisler
Commander

Col. Edward Ferguson
Deputy Commander

NAVWAR & PNT

System Delta 831

Col. Neil Barnas
Commander & SPD

Lt. Col. David Corder
Deputy Commander

Vacant
Deputy SPD

Mr. David Tran
Tech Director

Mission Delta 31

Col. Stephen Hobbs
Commander

Col. Justin Spring
Deputy Commander

Meet the PM/PCO Sessions

- Ms. Erin Carper, PEO, MCPNT
  - Exhibitor Hall, SSC booth area, 23 January, 1520-1540
- Col. Ashby, Commander, SYD 88 (MILSATCOM)
  - Exhibitor Hall, SSC booth area, 23 January, 1520-1540
- Col. Barnas, Commander, SYD 831 (NAVWAR & PNT)
  - Exhibitor Hall, SSC booth area, 23 January, 1520-1540
- PEO Staff, MCPNT Contracts
  - Exhibitor Hall, SSC booth area, 23 January, 1520-1540

Path Forward

- Space Force seeks to maximize industry partnerships
- FY26 NDAA
  - Requires consideration of commercial off-the-shelf solutions before building bespoke solutions
- 2025 DoW Acquisition Transformation Strategy
  - “Accelerate Commercial Preference: Maximize purchase of products, services, and parts available in the commercial marketplace”
- 2024 Space Force Commercial Space Strategy
  - “Wherever possible, the USSF will leverage the use of commercial space solutions and integrate them into its architectures and force offerings.”

Senior Leader Perspective

"These changes will move us…to a future powered by a dynamic vendor space that accelerates production by combining investment at a commercial pace with the uniquely American ability to scale quickly.

Acquisition is a warfighting function.

We need acquisition and industry to be as strong and fast as our warfighters."

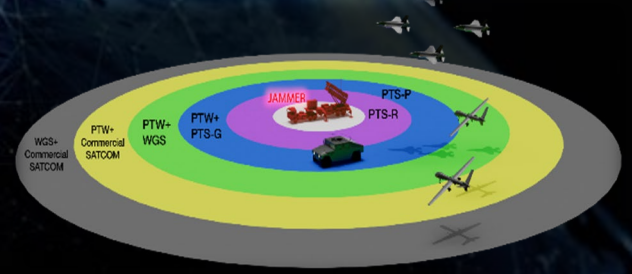
- Secretary of War Hegseth, introducing new Acquisition Transformation Strategy, November 7, 2025

SATCOM

Col. A.J. Ashby
Commander, SYD 88
Space Systems Command
U.S. Space Force

SATCOM Mission Area

- Narrowband:
  - Keeps warfighters connected via ultra-high frequency (UHF) that cuts through weather, dense foliage, and urban canyons for continual battlespace awareness and targeting
- Tactical:
  - Moves data into the fight with high-capacity X- and Ka-band for video, targeting, logistics and Command & Control (C2) plus modern anti-jam capabilities to fight interference, denial, and deception
- Strategic:
  - Guarantees secure, survivable, and endurable global Nuclear Command, Control & Communications (NC3) through all phases of conflict



Progress in 2025

- Narrowband:
  - Fielded updates to Mobile User Objective System (MUOS)
  - Completed an initial assessment of MUOS Wideband Code Division Multiple Access (WCDMA) performance

- Tactical:
  - Protected Tactical Waveform (PTW) Over Commercial – Enabled 9 Gbps MEO capacity worldwide for DoW use
  - Protected Tactical SATCOM—Global (PTS-G) - Awarded contract to five vendors to demonstrate PTS-G architecture

- Strategic:
  - Completed EPS-R Operational Test
  - Awarded key ESS Space, Ground, and Crypto contracts
  - Transitioned all three ESS program segments into execution

Current Capability Assessment

- Narrowband:
  - Achieving Initial Operational Capability of Integrated Broadcast Service over MUOS (IBS-M)
  - Completing SBIR contract to develop a prototype gateway between MUOS 3G and commercial 5G networks

- Tactical:
  - PTS-G: Execute Delivery Order (DO) 1 and prepare for release of 2nd task order for production of Swarm 1

- Strategic:
  - Transitioning EPS-R to operations
  - Starting to build first two ESS space vehicles
  - Preparing to enter ESS Ground Assembly, Integration, and Test

Future Plans

- Narrowband:
  - Enable commercial SATCOM backhaul to increase resiliency between MUOS ground sites in case of fiber outages
  - Commence a SBIR to examine 5G waveforms
- Tactical:
  - PTS-G: Additional potential Swarms to expand anti-jam capabilities
  - PTW over Commercial: Enable PTW over MEO and HIO
- Strategic:
  - Leverage commercial best practices and commercial production lines
  - Continue investments to mature industry base, increasing competition in critical areas (extended data rate (XDR), modernized C2, crypto)

Future Needs

- Narrowband:
  - Software-based crypto solutions that leverage commercial systems
  - Security and Interoperability solutions for non-terrestrial-network direct-to-device commercial systems
  - Commercial-based, affordable, flexible user devices
- Tactical:
  - Allow users on a commercial terminal to access DoD data/networks
  - Adaptive waveforms that operate across military/commercial platforms
- Strategic:
  - Software-based systems that rapidly evolve to threats
  - Leverage commercial tech and in-production components to enable quicker fielding and more capacity

Industry Opportunities

- Narrowband:
  - Multi-orbit transmit and receive path for terminals
- Tactical:
  - PTS-G Delivery Order 2 RFP expected Jan 26
  - Commercial SATCOM, including proliferated LEO capabilities
  - Cybersecurity hardening - zero trust architecture, software-based crypto, quantum key distribution, and on-orbit threat detection
- Strategic:
  - Commercial Command & Control (C2) terminal RID held 4 Dec
  - Space Segment RID in Washington DC, 23-24 Mar
  - Future RIDs planned to address modernizing NC3 industrial base
  - Leverage existing crypto product lines to shorten cycle times

Navigation Warfare & PNT

Col. Neil Barnas
Commander, SYD 831
Space Systems Command
U.S. Space Force

NAVWAR & PNT Mission Area

- Delivering **Gold Standard** PNT service to Joint Force, allies, and 6 billion worldwide civil users
- Providing **20X force multiplier** to US military operations
- Enabling **$1B per day** in US economic value

Civil

Advanced Civil

Finance

Military

Critical Infrastructure

Progress in 2025

- Launched two GPS satellites: SV07 in Dec 2024, SV08 in May 2025
- Awarded option for two GPS IIIF satellites (12 IIIF SVs on contract)
- Completed MGUE Inc 1 Army MQ-1C DT/OT in Sep 2025
- Completed two successful MGUE Inc 2 ASIC developments
  - Initiated Maritime Aviation Receiver Card (MAVRC) Program
- Transferred MGUE Program from USSF to USAF on 1 Dec 2025
- Completed R-GPS Phase 0 studies

Navigation Warfare & PNT Acquisition Orgs

Mission Delta 31
SPD: Col. Justin Spring

Ops, sustainment, and modernization

- OCS/AEP
- OCX
- GPS III & Legacy

System Delta 831
SPD: Col. Neil Barnas

GPS capability development

- GPS IIIF
- R-GPS
- Future Programs

Military Aviation Receiver JPO
ML: Lt. Col. Matt Getts

User Equipment & Platform Integration

- MGUE Inc 1
- MGUE Inc 2
- MGUE FMS

Current Capability Assessment

- 31 active satellites on orbit
- Delivering most accurate signal-from-space in program history (0.30m)
- Broadcasting M-Code Early Use to 2 mil US and allied users
- 63 allied nations now part of GPS MOU V
  - Enables MGUE FMS sales, transfers, and production

GPS III SV08 Launch, 30 May 2025

GPS MOU V Kickoff Event, Sept 2025

Future Plans

- Launch GPS III SV09 and SV10 in Jan/Mar 2026
- Continue GPS IIIF production
- Support USAF MAR JPO on MGUE and future user equipment development
- Shape future GPS architecture & capabilities
  - SWAC Project HECATE
  - R-GPS Phase 0 lessons learned
  - DoW Acquisition Transformation

Future Needs

- Low SWaP-C M-Code space receivers for proliferated constellations
- High-stability, low SWaP atomic clocks
- Multi-manifest launch designs for orbital plane population and rapid reconstitution
- MOSA-compliant payloads to support hybrid PNT architectures

Operational Test and Training Infrastructure

Col Corey Klopstein
Program Executive Officer
SSC/SYD 81 Commander
Jan 2026

Highest Overall Classification:
Unclassified

Operational Test and Training Infrastructure

Mission: Deliver space test and training capabilities to prepare combat ready forces

Vision: The immersive arena to achieve Space Dominance

Trained…Tested…Lethal

Operational Test and Training Infrastructure

Our OTTI Team

SYD 81 stand up formally aligned our efforts primarily to STARCOM's Space Deltas 10, 11, and 12. We work together as a unified team with one shared mission.

PEO
Col Klopstein

DPEO
F Schnell

DoE
King Molder

CFO
Sabrina Ugwu

COCO
Ashley Irizarry

CFC
Mission Deltas

DEL 10/CC
Col Shannon DaSilva

DEL 11/CC
Col Agustin "Rico" Carrero

DEL 12/CC
Col Sacha Tomlinson

SYD 81/CC
Col Corey Klopstein

DEL 10/Deputy Director
Mr. Brian Raymond

DEL 11/Deputy Director
Mr. Joe White

DEL 12/Deputy Director
Mr. James DeBoer

Col Alan Burwell
Deputy Commander

SPD OTTI Capabilities
Col Craig Hackbarth

- **SPM Physical Test and Training**
  Lt Col Curtis Babbie
- **SPM Digital Test and Training**
  Lt Col Scott Peeples
- **SPM Infrastructure**
  Lt Col Kade Ewert
- **SPM Readiness**
  Lt Col Jessica Mahoney

SPM Space Data Mgmt Personnel
Lt Col Lindsay Buckle

OTTI Architecture

DIGITAL ENVIRONMENT(S)

- Low-Med Fidelity [Training / Exercises / Wargaming]
  - SWORD/SWARM Framework
  - Training Quality Red & Blue Digital Models [organic development]
- High Fidelity [Test / TTP Validation]
  - JSE / GRID Framework
  - Test Community, IC-Validated Red & Blue Digital Models with Flight Software [NSIC, Dev Contractors, Nat'l Labs]
- Mission System Trainers [Training / Exercises]

GUARDIAN OPERATOR
RANGE OPS, TRAINING, TESTING, OPFOR, EXERCISES

PHYSICAL / LIVE ENVIRONMENT(S)

- Range Assets [Test and Training]
  - On-Orbit Sensors / Surrogates
  - Range Mission Control Center & C2
  - Ground Sensors / Emitters
  - Cyber Environment(s)
- Hardware In The Loop (HWIL) [Test Validation]
  - Anechoic Test Chambers
  - Systems Under Test
  - Flat Satellites

INFRASTRUCTURE

- Secure Facilities and Workspace
- Networks and Connectivity
- High Performance Computing (HPC)
- Nodes: West, Mountain, Central, East
- Platform Services
- Data Management Services
- Modeling and Simulation Tools
- Enterprise Digital Engineering
- Cybersecurity

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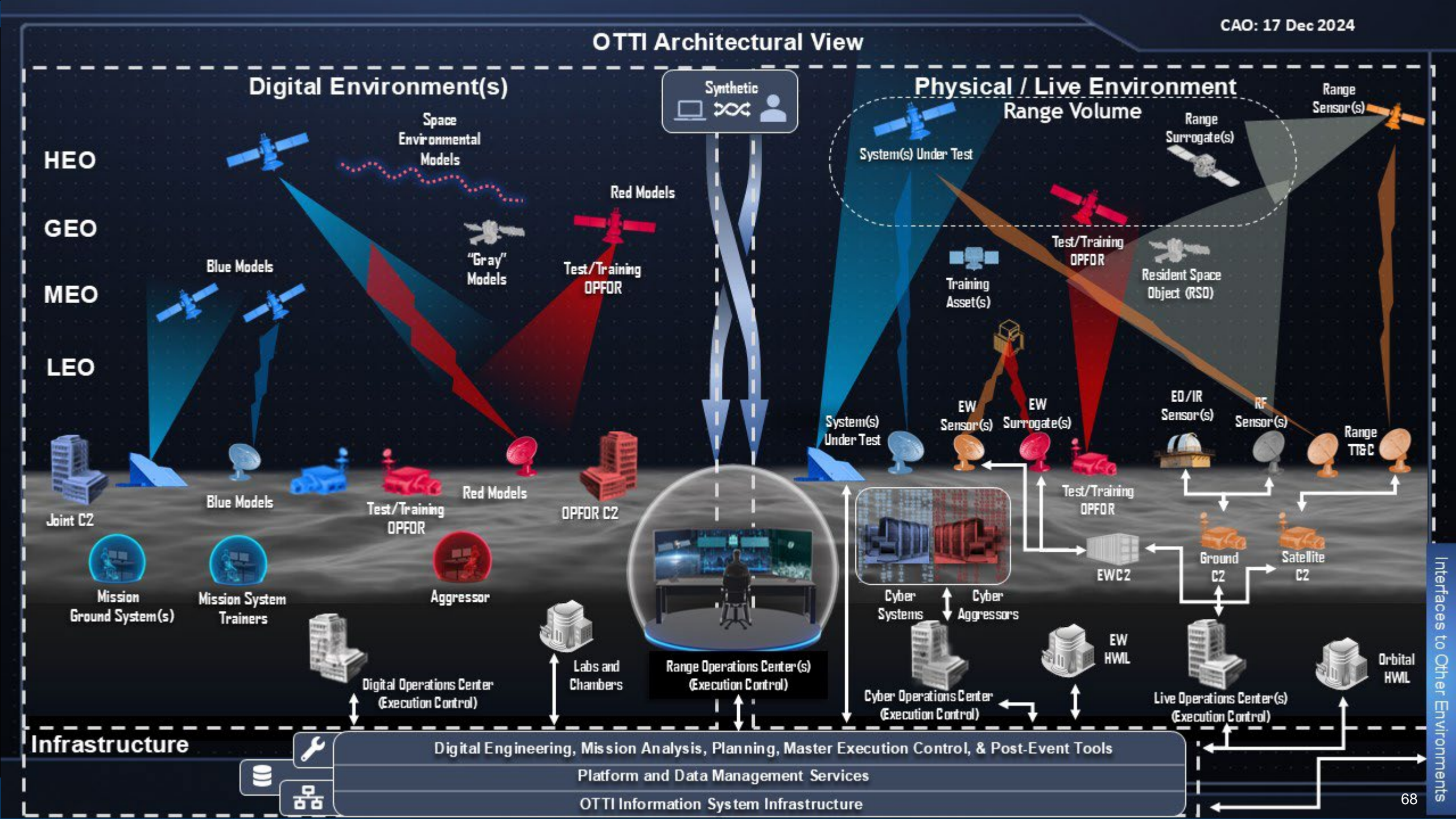
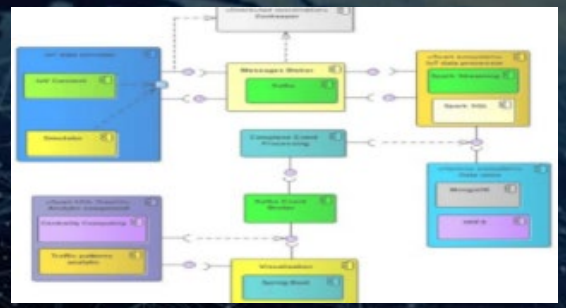

OTTI Architectural View
Digital Environment(s)
Synthetic
Physical / Live Environment
Range Volume
HEO
GEO
MEO
LEO
Space Environmental Models
Red Models
"Gray" Models
Test/Training OPFOR
Blue Models
System(s) Under Test
Range Surrogate(s)
Range Sensor(s)
Training Asset(s)
Test/Training OPFOR
Resident Space Object (RSO)
EW Sensor(s)
EW Surrogate(s)
EO/IR Sensor(s)
RF Sensor(s)
Range T&C
System(s) Under Test
Joint C2
Blue Models
Test/Training OPFOR
Red Models
OPFOR C2
Test/Training OPFOR
EWC2
Ground C2
Satellite C2
Mission Ground System(s)
Mission System Trainers
Aggressor
Cyber Systems
Cyber Aggressors
Digital Operations Center (Execution Control)
Labs and Chambers
Range Operations Center(s) (Execution Control)
Cyber Operations Center (Execution Control)
EW HWL
Live Operations Center(s) (Execution Control)
Orbital HWL
Infrastructure
Digital Engineering, Mission Analysis, Planning, Master Execution Control, & Post-Event Tools
Platform and Data Management Services
OTTI Information System Infrastructure
Interfaces to Other Environments

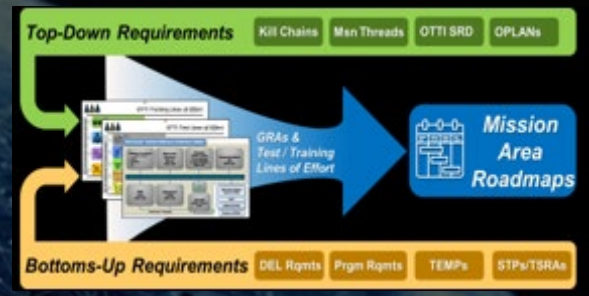
OTTI Strategic Approach Update

CY24	CY25	CY26	CY27	CY28

PHASE 1: OTTI FORMATION

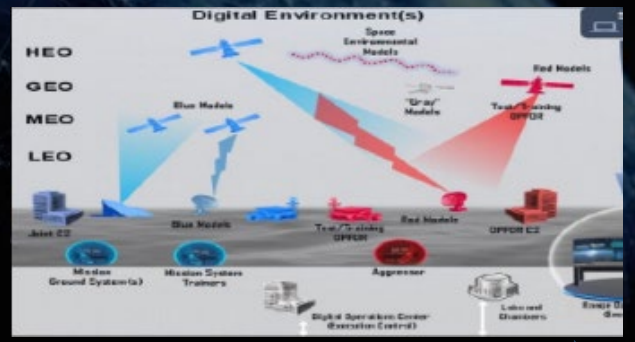
- Standup PEO & SYD 81
- Government Reference Architecture
- Industry engagement (continuous)
- Acquisition Roadmaps

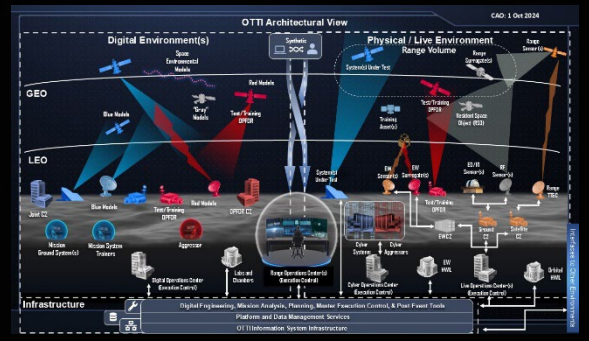




PHASE 2: SPAFORGEN ACCELERATION

- Leverage Partner Contracts
- Upgrade Existing Capabilities
- Advanced Program Testing (HWIL)
- Cyber Defense Test/Training
- Integrate siloed systems
- Mission System Trainers





PHASE 3: ARCHITECTURE INTEGRATION

- OTTI Digital Envt Dev
- Range Ops Center Dev
- Integration of Training Sims
- Purpose-Built On-Orbit Range
- Validated Red & Blue Model Dev
- Long-term Facility/Infrastructure

OTTI Contract Status

DIGITAL ENVIRONMENT(S)

- Low-Med Fidelity [Training / Exercises / Wargaming]
  - SWORD/SWARM Framework
  - Training Quality Red & Blue Digital Models [organic development]
- High Fidelity [Test / TTP Validation]
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INFRASTRUCTURE

- Secure Facilities and Workspace
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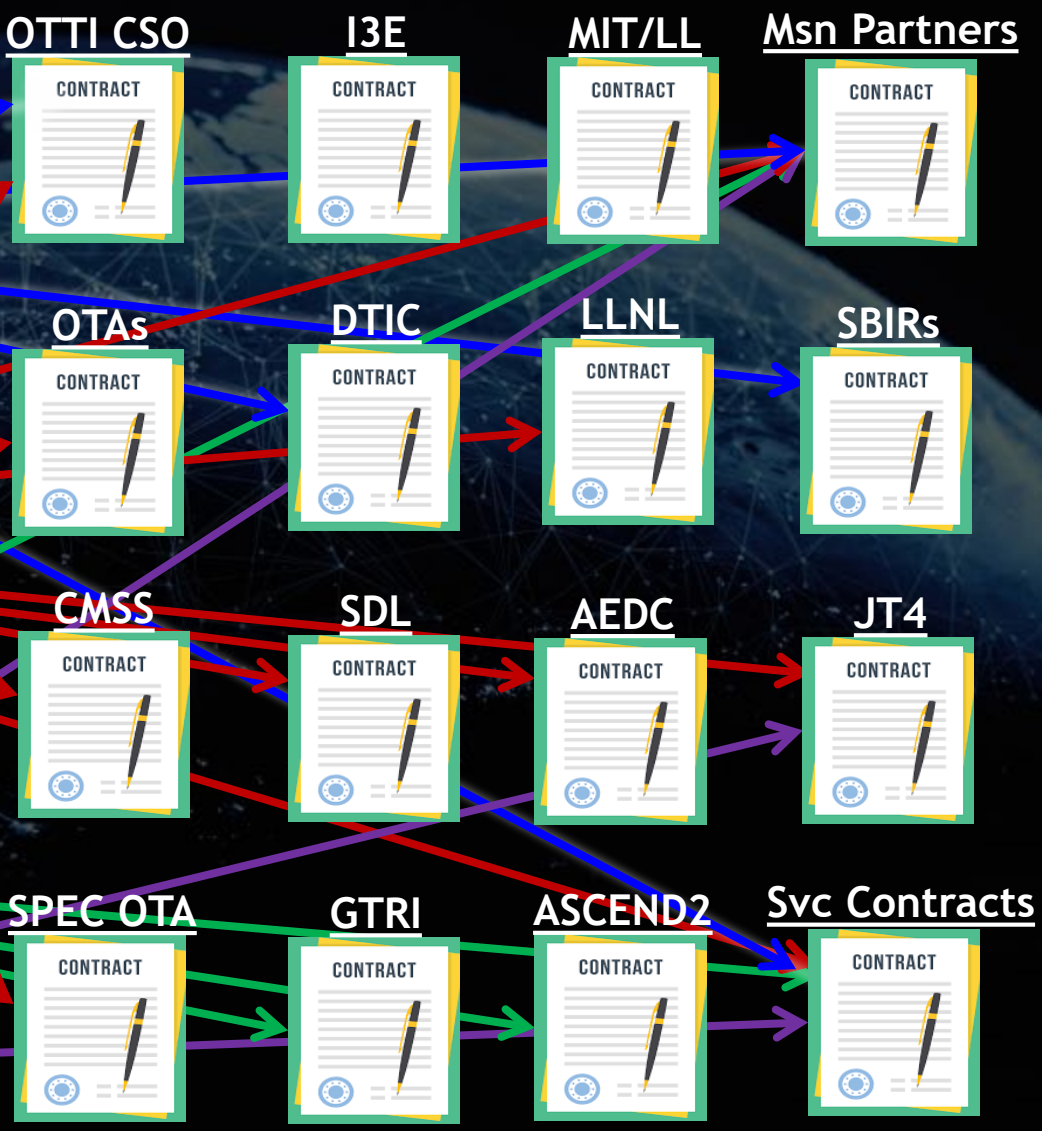
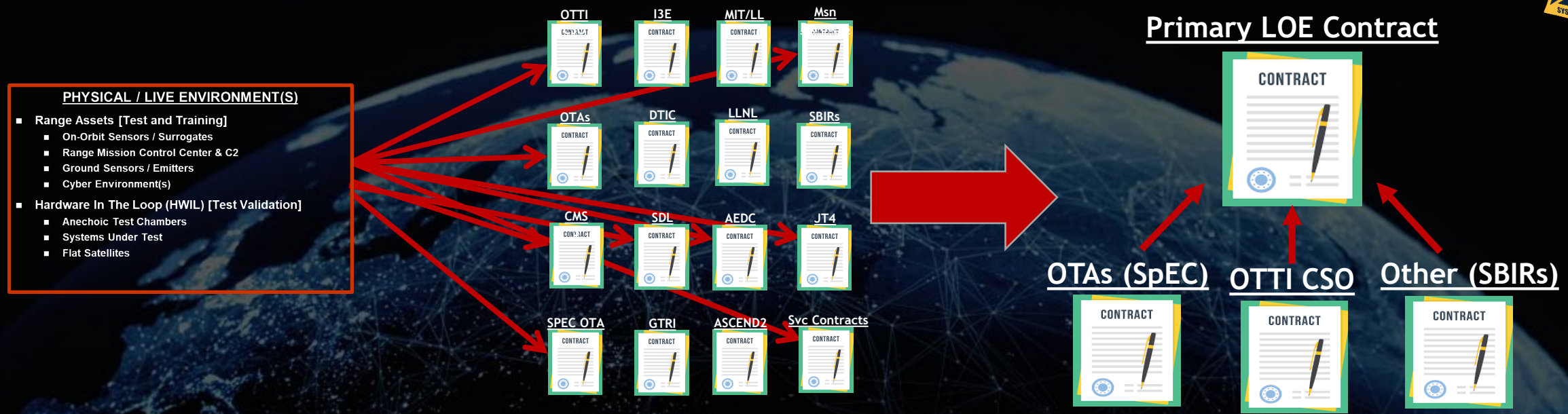
- Nodes: West, Mountain, Central, East
- Platform Services
- Data Management Services
- Modeling and Simulation Tools
- Enterprise Digital Engineering

GUARDIAN OPERATOR
RANGE OPS, TRAINING, TESTING, OPFOR, EXERCISES



OTTI Structured Contract Approach



- **DIGITAL ENVIRONMENT(S)**
  - Software Acquisition Pathway Program of Record determined in 2025: SWORD and JSE-Space
  - Awarding OTA as Primary LOE Contract by Summer 2026
- **PHYSICAL/LIVE ENVIRONMENT(S)**
  - On-Orbit, EW, HWIL, Cyber, Range Operations capability developments ongoing
  - Awarding NITE-STAR IDIQ as Primary LOE Contract by Summer 2026
- **INFRASTRUCTURE**
  - ASCEND2 IDIQ Awarded in 2025 as Primary LOE Contract
  - Leveraging Horizon2 for Digital Engineering Environment (DEE) development at SpaceDEN

OTTI Contract Focus

DIGITAL ENVIRONMENT(S)

- Low-Med Fidelity [Training / Exercises / Wargaming]
  - SWORD/SWARM Framework
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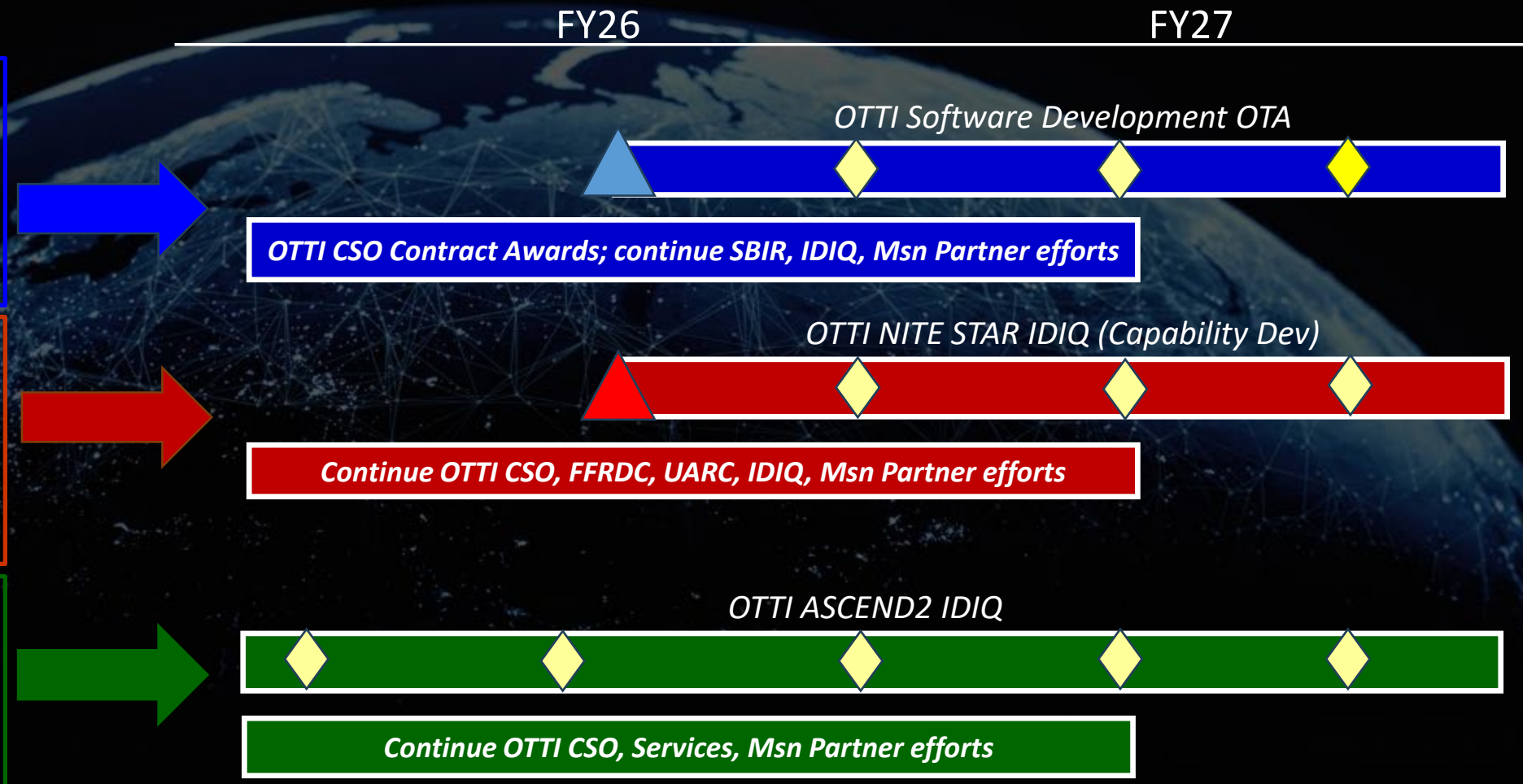


Pivot to OTTI managed contract execution in FY26 to build out Architecture

What OTTI Needs from Industry - SSC/SYD 81/TIF and TIP

- SSC/SYD 81/TIF
  - Data Transfer network / circuit node mapping and modeling capabilities or catalog solutions
  - Zero Trust Identity, Credential, and Access Management (ZICAM) solutions
  - Multi Level Security Architecture leveraging granular data tagging and access
  - Data federation solutions across existing Government and Industry data stores
- SSC/SYD 81/TIP
  - Seeking right balance of Capability as a Service and govt ownership
  - Integration of EW/OW/Cyber range capabilities
  - Range Control System applications/tools
  - Time, Space Position Indication (TSPI) ground & on orbit capabilities
  - RF & EO/IR test chambers
  - Range surrogates

What OTTI Needs from Industry - SSC/SYD 81/TID

- HEAT3
  - Commercial HEAT3-relevant technologies that can integrate with CSSE to enhance, expand, scale, augment, or otherwise improve HEAT3 capabilities
  - Commercial technologies that could augment or replace CSSE as an operationally-relevant environment for HEAT3
- Distributed Training
  - Commercially-based solutions for Distributed Training environment software integration and management (DevSecOps, operational ground system integration, third-party tool integration, configuration management, product support, user training, etc.)
  - Commercial solution for a real-time high-to-low-to-high capability for Program-level SWORD simulation
  - Commercial solution for multi-level-security allowing coalition and “less than system high” users to operate their tactical interface
  - Commercial solution for a scenario development tool that does not require advanced Satellite Toolkit skills to operate
  - Commercial Solutions for tools that can integrate with SWORD to meet mission-or-scenario-specific training objectives

OTTI PEO Summary

PEO Acquisition Priorities:

1. Exploit & connect existing test & training systems to rapidly enhance Guardian readiness
2. Deliver & sustain integrated OTTI increments
3. Expand range capability to verify systems in the HEAT3 environment

Every System Tested, Every Tactic Proven, Every Guardian Ready!

OTTI Contract Focus

	FY25	FY26	FY27
Digital SW Acq Pathway	Modify Existing Contracts Continue AGI/HII 3IS & DTIC Ctrs SBIRs (i.e. Sonalyst, Slingshot-AI)	SBIR Continuation Commercial Solutions Openings Continue AGI/HII Ctrs	Continue efforts + IDIQ or OTA
Physical	Mission Partner Contracts UARCs/FFRDCs SpecOT (Tetra, ASTRO-LM and HII)	CSOs, SpecOT, NITE-STAR IDIQ UARCs/FFRDCs Mission Partner Contracts	
Infrastructure	SBIR Phase III - ASCEND 2 TOs (TO w/ KBR + other TOs) Mission partner contracts (Mesh1, DISA, Etc) Services Contracts (License, Cloud, Data Management)		

Contact Us: SSC.TI.IndustryEngagements@spaceforce.mil

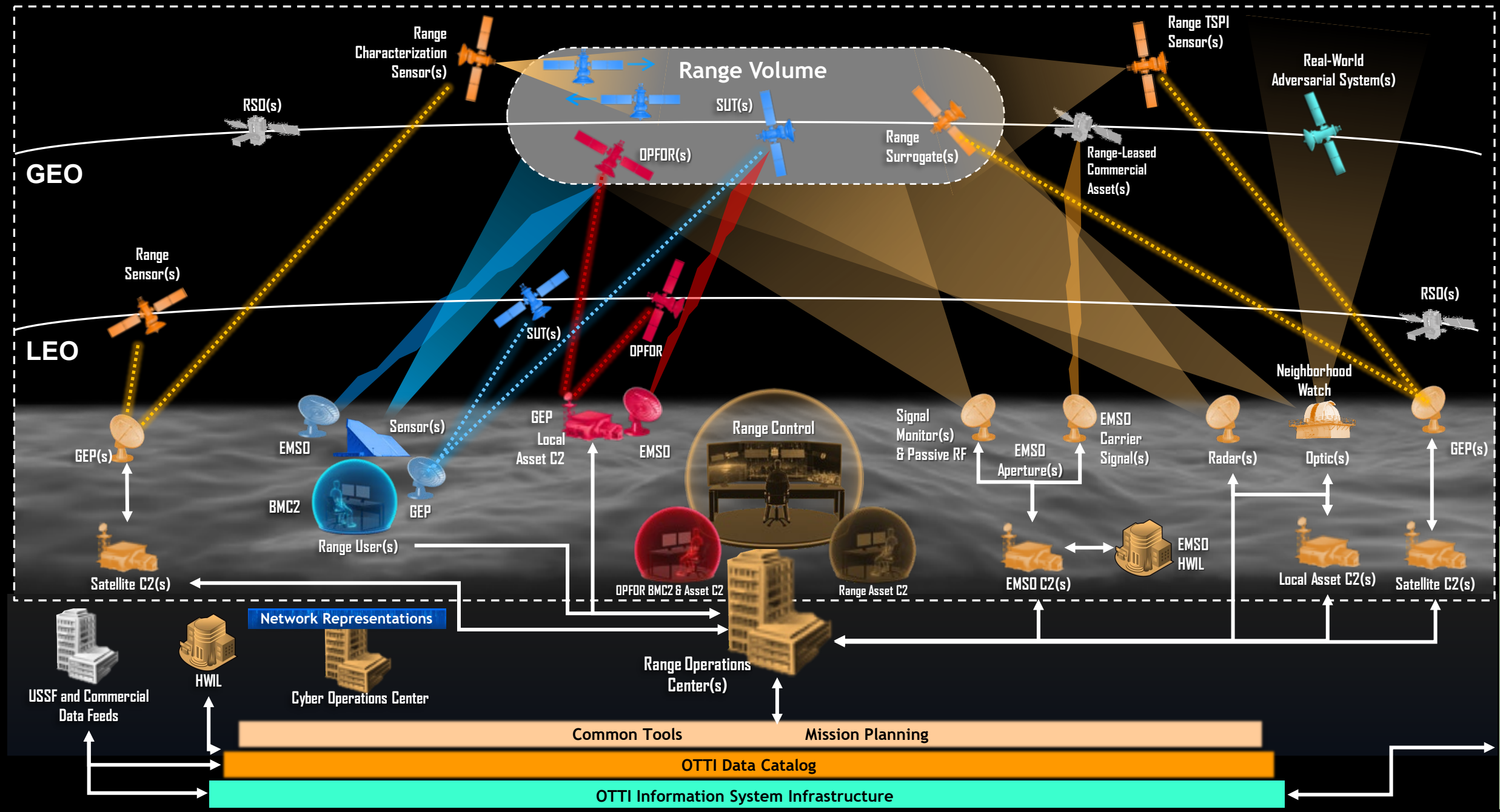
Continue pivot to OTTI managed contract execution in FY26 to build out Architecture

Digital Operations Ranges, Lt Col Scott Peeples, SPM

- Digital Operations Ranges = Software Pathway Program of Record for Digital Environments
- 1 Program: Digital Operations Ranges / 2 Digital Environments: SWORD & JSE
  - SWORD focused on distributed training & exercises / JSE focused on test & TTP validation
- #1 Near-term Milestone: Complete Commercial Solutions Opening contract awards for SWORD
  - #2 Milestone: Space Force-wide exercise/training model standard approval
  - Future Commercial Solutions Openings upcoming for Digital Operations Ranges capabilities
- Building on established model/data standards and supplementing with open API development
- Industry risk reduction: integrate with SWORD (SWARM (STK)/Kafka/DIS) & JSE (AFSIM/GRID)
- AI/ML is foundational to Space Force Digital Test & Training
  - Scaling problem: not enough Space Force Aggressors exist to give all Guardians reps & sets vs threat
  - Will continue to leverage & scale AI/ML for blue/red/white cell support in test/training/exercises

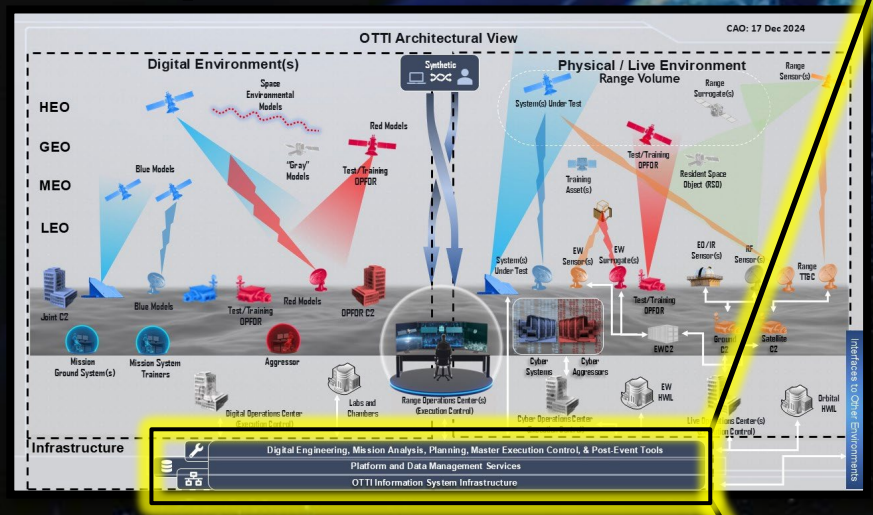
Physical / Live Range – Lt Col Curtis Babbie, SPM

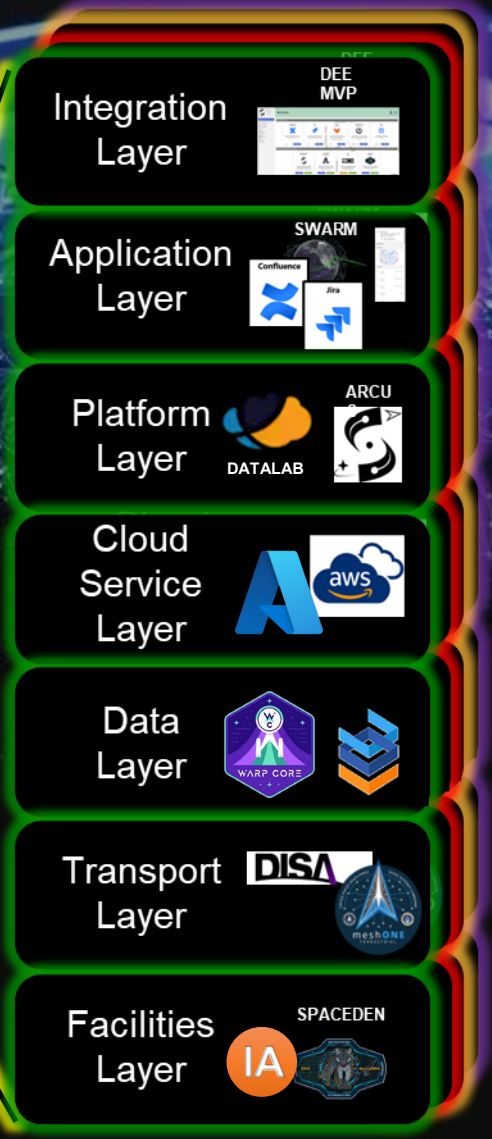
Physical/Live Range OV-1



[redacted] Infrastructure – Lt Col Kade Ewert, SPM

TIF Operational View





LOE: Integration Accelerator, SpaceDEN

LOE: Developing/Integrating could-based distributed training

LOE: Platform1—CtF, SpaceDEN - Subspace, Spacestation, Altitude

LOE: Hosting MBSE and M&S environments, Gov't clouds with hybrid solutions

LOE: Data Storage, Data Management, Data Compute

LOE: Leverage existing Data Transport across DISA, commercial, partners—MeshONE-T

LOE: Acquiring Integration Accelerator (IA), SpaceDEN, Physical Ranges, OTTI Workspace

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[redacted] Readiness– Lt Col Jess Mahoney, SPM

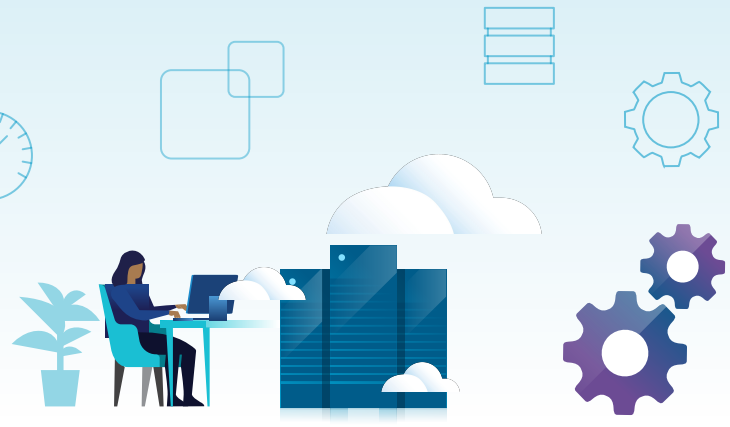
- What Readiness Branch wants Industry to know:
  - OTTI is exploring alternatives to the current overall OTTI maintenance/sustainment approaches
    - Will be putting organic contracts in place
  - Maintenance/sustainment costs and Operations costs must be ID'd ahead of delivery of an OTTI system
    - Sustainabiltiy, Maintainability, and Upgradeabilty
    - SYD 81 TIR will want to leverage training tools/applications from current Space Force capability developers
  - Any tools/applications developed for exercises, wargames or training must be compatible with the OTTI near-term Distributed Training Environment (SWORD
  - SYD 81 TIR is planning to use the developing OTTI underlying infrastructure to connect disparate units for exercises and wargames (long-term)
  - Proposed solutions should consider what Authority to Operate any tool/application on a classified network can be challenging
- How to contact us:
    - SSC.TI.IndustryEngagements@spaceforce.mil

We

Break Sponsor

vmware by Broadcom

Modern Private Cloud is Not a Location.



Software-Defined Infrastructure

Compute, storage, network, security, data protection

Self-Service and Automation

Consumption-focused with tenant control and automation

Workload Agnostic

Modern, traditional, and AI workloads

Location Agnostic

On-prem, hyper-scaler, edge, sovereign/CSP

Security and Governance

Resiliency, cost control, automated LCM and policy enforcement