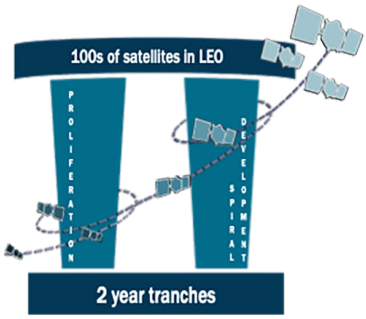
Space Development Agency

Mission

Speed. Delivery. Agility.

As DoD's constructive disruptor for space acquisition, SDA will quickly deliver needed space-based capabilities to the joint warfighter to support terrestrial missions through development, fielding, and operation of the Proliferated Warfighter Space Architecture – a constellation of hundreds of satellites in low Earth orbit. SDA capitalizes on a unique business model that values speed and lowers costs by harnessing commercial development to achieve a proliferated architecture and enhance resilience. SDA will deliver a minimum viable product—on time, every two years—by employing spiral development methods, adding capabilities to future generations as the threat evolves.

Two Pillar Approach



High-Level Schedule

Tranche 0 – *Warfighter Immersion*

Periodic Regional Access
- Low Latency Data Connectivity
- Data directly to tactical elements
- HGV Detection & Tracking
- Alternate PNT
- Data disseminated to theater targeting cells
- On-orbit Fusion
- Multi-phenomenology sensor fusion

Demonstration:
- BLOS Targeting
- MW/MT

Tranche 1 - *Initial Warfighter Capability*

Persistent Regional Access
- Tranche 0 listed capabilities
- Link 16 tactical data link
- HGV Detection & Tracking+
- Targeting quality data

Periodic Regional Access:
- Multiple sensing types using mission partner contributions

Demonstration:
- Multi-phenomenology, on-orbit fusion
- Missile defense demo in operational system

Tranche 2 - *Full Warfighter Capability*

Persistent Global Access
- Tranche 1 listed capabilities
- Initial missile defense capability
- UHF & S-band tactical communications

Periodic Global Access:
- Multiple sensing types using mission partner contributions

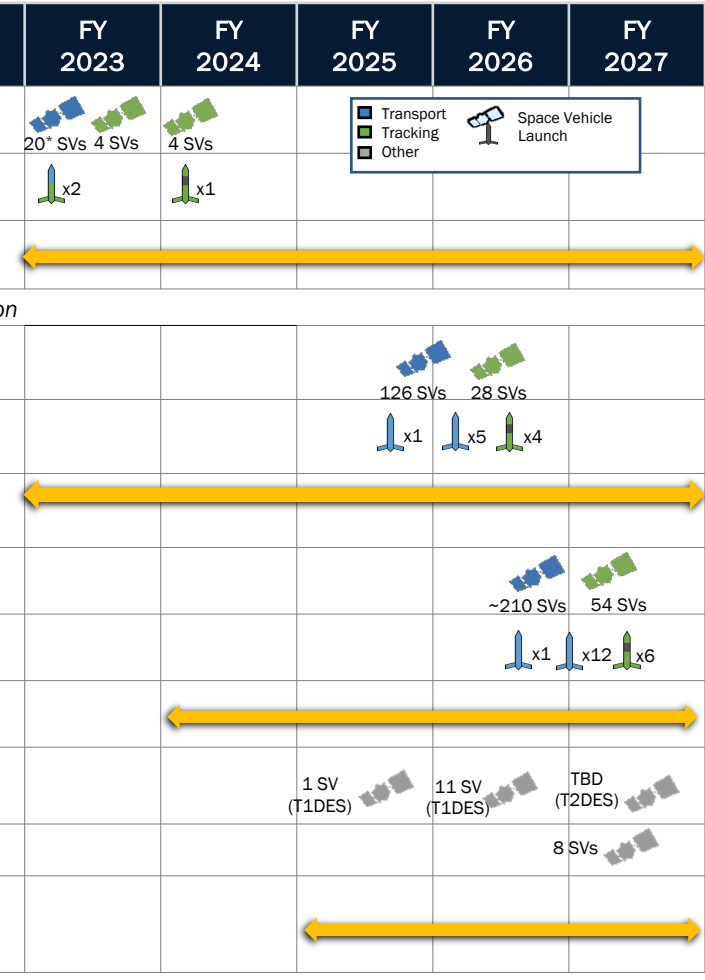
Demonstration:
- Multi-phenomenology, on-orbit fusion

PWSA Futures Program (PFP)

- **TnDES**: Operational feasibility demo of future PWSA capability

Advanced Fire Control (AFC)

- **FOO Fighter (F2):** Fire control demonstration in operational constellation., on-orbit fusion
- **AFC Ground Infrastructure (AFCGI)** to support F2 and follow-on AFC efforts.



BLOS: Beyond Line of Sight
HGV: Hypersonic Glide Vehicle
MW/MT: Missile Warning and Missile Tracking

SV: Space Vehicle
TnDES: Tranche n Demonstration and Experimentation System
FOO Fighter: Fire-control On Orbit-support-to-the-war Fighter

*One T0 Transport SV kept on ground as a testbed
+And other advanced missile threats

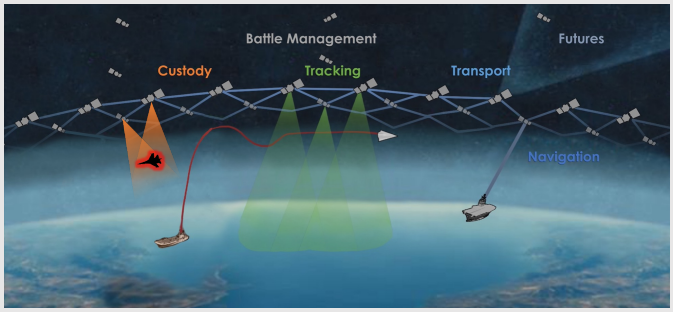
The Space Development Agency's spiral development model now spans the full spectrum: demonstrating Tranche 0, building Tranche 1, acquiring Tranche 2, and planning for Tranche 3

Focus Areas

Mesh network of optically-connected satellites to enable:
- Tracking and targeting for advanced missiles in flight
- Beyond-line-of-sight (BLOS) targeting for time-sensitive targets, or mobile targets

Resilient Layered Architecture Approach

- Threat-driven capabilities informed by warfighter needs
- Assures resilient, low-latency military data and connectivity worldwide to the full range of warfighter platforms
- Integrates with Space Warfighting Analysis Center force design and DOD-wide missile defense mission
- Serves as the Joint All-Domain Command and Control (JADC2) backbone in space



Space Development Agency

Acquiring Capabilities at Speed and Affordable Cost

SDA is on pace to deliver initial space transport capabilities on the agency's originally advertised schedule at a per satellite price point once deemed unachievable.

$14M Approximate average cost of SDA Transport satellite

111 Average days between solicitation and contract or award

63 During FY2023, SDA made 63 awards totaling ~$2B

29 Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards for ~$37 million in FY2023

Delivering Capabilities at Speed

The First Five Years

March 2019
Agency stands up on March 12 with fewer than a handful of detailed employees and no office space.

July 2019
First SDA industry day event with over 350 industry, Hill, and media reps in attendance.

March 2020
Agency's first request for proposals is published to build a new proliferated architecture in low Earth orbit (known then as the National Defense Space Architecture or NDSA).

June 2020
Released first public version of SDA's industry-leading Optical Communication Terminal Standard (then known as OISL Standard).

August 2020
Announced first contract awards for Tranche 0 data Transport Layer of the agency's architecture (known initially as NDSA).

October 2020
Awarded first Tracking Layer contracts to build 8 Tranche 0 missile warning/missile tracking demonstration space vehicles.

December 2020
Delivered first two experimental satellites to launch provider just nine months after receiving the agency's initial appropriated funds.

Summer 2021
SDA's first launches included four experiments on six satellites.

February 2022
Issued first awards for Tranche 1 Transport Layer space vehicles.

May 2022
Awarded the agency's first Ground Operations & Integration contract for Space Operations Centers at Redstone Arsenal, Ala. and Grand Forks Air Force Base, ND.

September 2022
Selected a vendor to build and launch NExT, SDA's experimental testbed.

September 2022
SDA successfully transfers to become a component of the U.S. Space Force.

January 2023
The agency's architecture is now known as the Proliferated Warfighter Space Architecture or PWSA.

April 2023
Launched first 10 PWSA Tranche 0 satellites to low Earth orbit, approx. 30 months after contract award.

June 2023
Awarded BMC3 Application Factory – AppFac will be the first DoD DevSecOps Reference Design Software Factory.

August 2023
Awarded first Tranche 2 space vehicle agreements to build and operate Transport Layer Beta variant satellites, set to begin launching in 2026.

September 2023
SDA delivered 13 additional Tranche 0 satellites on-orbit ~33 months from order to launch.

November 2023
SDA received three 2023 Defense Acquisition Workforce Awards in Excellence in Acquisition and Individual achievement.

January 2024
Awards announced for the Tranche 2 Tracking Layer, including missile warning/missile tracking and missile defense space vehicles.

February 2024
Launched the final four Tranche 0 Tracking Layer satellites alongside Missile Defense Agency's HBTSS to demonstrate full-scale missile defense sensing capabilities from low Earth orbit.

For more information about the agency, employment, and competitive opportunities, visit us at SDA.mil, on LinkedIn, or X @SemperCitiusSDA