

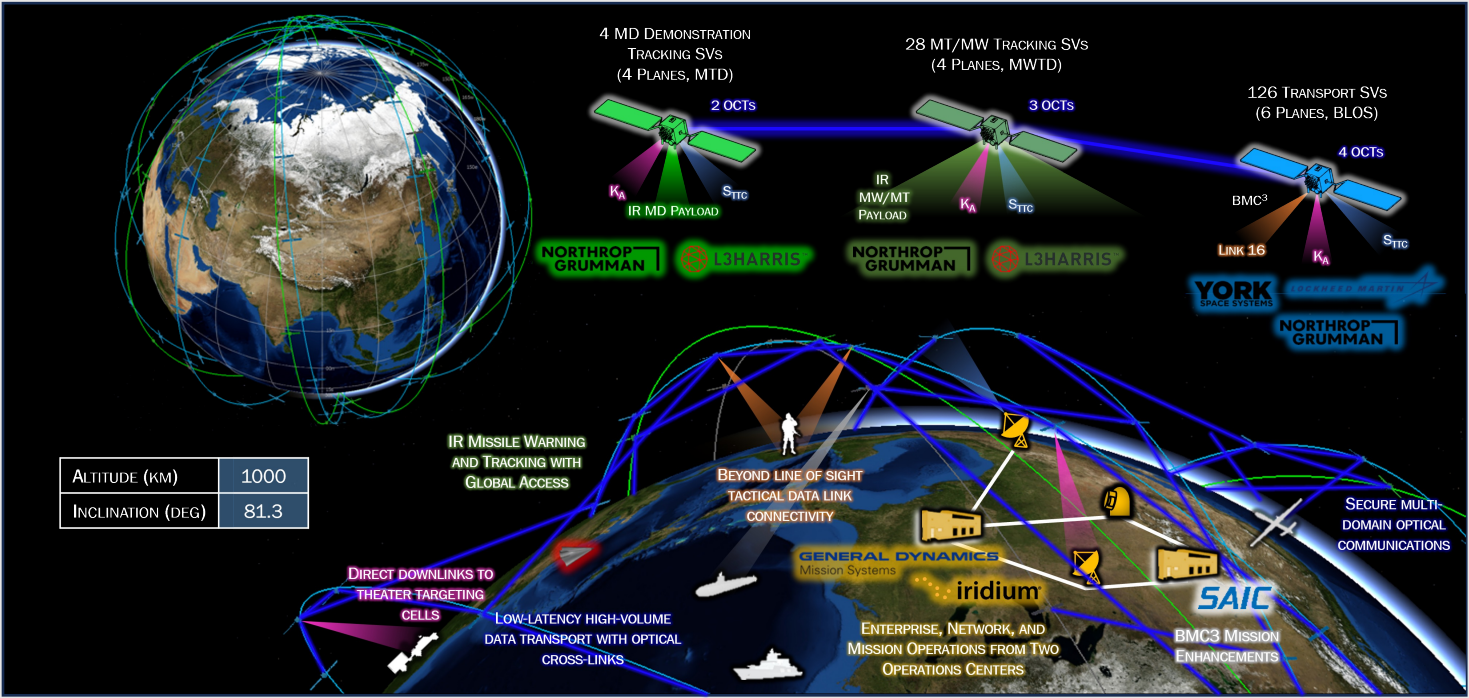
# Proliferated Warfighter Space Architecture

## Tranche 1

**Mission**      

**Speed. Delivery. Agility**

The Space Development Agency (SDA) is charged with the delivery of the Proliferated Warfighter Space Architecture (PWSA), a proliferated constellation of hundreds of optically linked small satellites, in low-Earth orbit (LEO), delivering capability at speed to the warfighter. SDA leverages spiral development to deploy and proliferate new capability into a new generation of the PWSA every two years, called a “tranche,” to continually increase capability used by the warfighter.



*PWSA Tranche 1 Architecture*

### Tranche 1, The Initial Warfighting Capability Tranche

- The Tranche 1 (T1) constellation will provide global communications access and deliver persistent regional encrypted connectivity in support of warfighter missions around the globe
- Delivers regional persistence for Link 16, advanced missile tracking and missile warning (MW/MT), and beyond-line-of-sight (BLOS) targeting.
- 154 operational space vehicles (SVs), plus four demonstration SVs, equipped with optical communications terminals (OCTs) and Ka-band radio frequency (RF) receive/transmit capability.
  - 126 Transport SVs configured with Link 16 tactical data link (TDL) transmit/receive capability.
  - 28 Tracking SVs configured with an infrared (IR) sensor payload for MW/MT.
  - Four missile defense (MD) demonstration SVs configured with a higher fidelity IR sensor payload to demonstrate initial MD capability.
- T1 satellites will be operated from two SDA Space Operations Centers (Grand Forks Air Force Base, North Dakota; Redstone Arsenal, Alabama) and supported by a global network of ground entry points.
- The average cost per T1 Transport Layer satellite is approximately \$14 million.
- The first T1 launch is set for summer 2025. Deployment of T1 will complete in 2026, following a campaign of 10 launches.

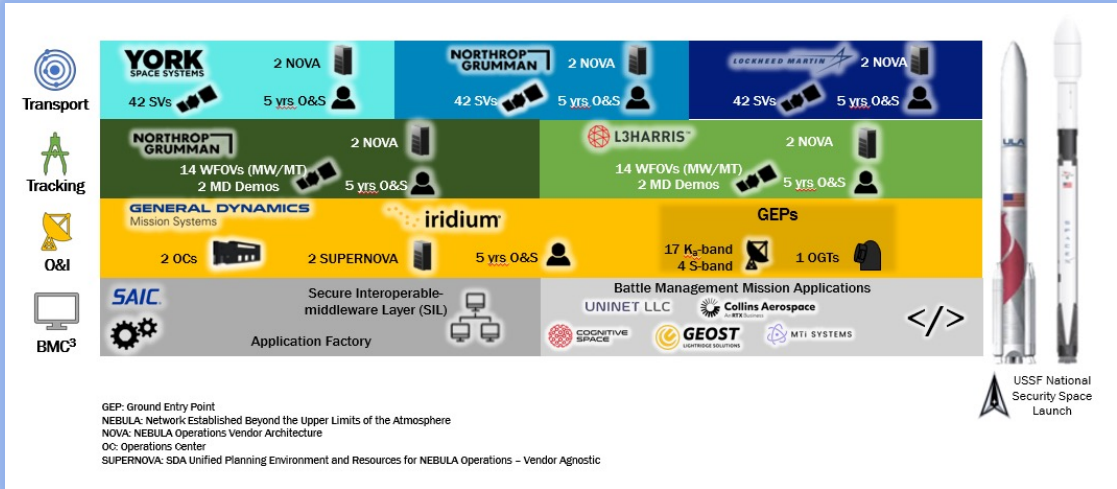
# Proliferated Warfighter Space Architecture

## Tranche 1

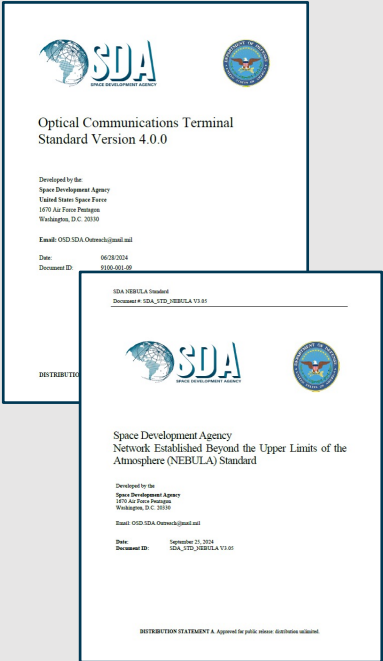


### PWSA Tranche 1 Team

The PWSA Tranche 1 (T1) is enabled by a team of multiple vendors to deliver both space and ground segments enabled by design and interoperability requirements listed in the SDA Optical Communications Terminal (OCT) Standard and Network Established Beyond the Upper Limits of the Atmosphere (NEBULA) Standard.



PWSA Tranche 1 Team



The SDA OCT Standard and SDA NEBULA Standard provide vendors design and networking requirements to enable interoperability of the PWSA

### High Level Capabilities

#### Persistent Regional Access:

- Low-latency data connectivity
- Data directly to previously-fielded tactical elements
- Missile warning and missile tracking for conventional missiles and hypersonic glide vehicles
- Link 16 tactical data link
- Position, Navigation and Timing (PNT) resiliency and situational awareness
- Integrated Battle Management, Command, Control and Communications (BMC3) data processing/management

#### Periodic Regional Access:

- Multiple sensing types using mission partner contributions

#### Demonstrations:

- On-orbit data fusion
- Initial missile defense capability

### Tranche 1 Timeline

