



PROLIFERATED WARFIGHTER SPACE ARCHITECTURE

Experience at Scale and Speed

Northrop Grumman brings decades of mission experience in military satellite communications, missile warning and missile defense, and on-orbit networking to help rapidly field new architectures addressing the needs of the warfighter.

In support of Space Development Agency (SDA), Northrop Grumman is leading the

effort to rapidly field a global proliferated low Earth orbit (LEO) architecture of data transport and missile warning and missile tracking satellites and the powerful ground systems that will support it.

Successful architectures require constellations of hundreds of smaller, lower-cost satellites orbiting Earth close to the atmosphere. These architectures add a resiliency layer to our current array of on-orbit systems and can better target traditional and hypersonic missiles maneuvering in flight.

Partnerships are a core part of how we are meeting SDA's timelines.

Assembling and leading a team made up of suppliers from across the industry with technology that's ready today, Northrop Grumman's approach is to leverage our mission experience to move at the pace the environment demands.

The Proliferated Warfighter Space Architecture (PWSA) mesh network will detect and track hypersonic and traditional ballistic missile launches, as well as provide the high-speed data that U.S. troops need to combat threats while operating around the globe.

As lead systems integrator, Northrop Grumman is committed to this shared success.



PROLIFERATED WARFIGHTER SPACE ARCHITECTURE

WHAT IS THE PWSA?

The PWSA is SDA’s initiative to create a global mesh-networked missile defense and communications architecture in LEO. The PWSA responds to the rise of hypersonic missiles, which maneuver in flight and require infrared tracking and low-latency, timely data to counter effectively. It also provides the high-speed data that U.S. troops need to combat threats while operating around the globe.

There are two main components to the PWSA:

Transport Layer

Northrop Grumman is under contract to deliver 116 satellites as part of SDA’s Transport Layer, which is designed to provide low-latency, high-volume data connectivity supporting U.S. military missions around the world and extends the military’s Link 16 tactical data link into space.

Tracking Layer

Northrop Grumman is under contract to deliver 34 space vehicles as part of a global constellation of infrared missile warning and missile tracking satellites. These satellites integrate with the Transport Layer’s low-latency meshed communication network, enabling conventional and advanced missile tracking from LEO.

OUR APPROACH

To help SDA make this complex architecture a reality, Northrop Grumman is combining its advanced technology and decades of mission expertise with the best commercially developed technology from partners ready today to produce with speed and at scale.

CHARACTERISTICS

TRANCHE	Transport Layer of Tranche 1	Tracking Layer of Tranche 1	Transport Layer of Tranche 2 – Beta	Transport Layer of Tranche 2 – Alpha	Tracking Layer of Tranche 3
AWARDED	February 2022	July 2022	August 2023	October 2023	December 2025
SPACE VEHICLES	42	16	36	38	18
CAPABILITIES	Laser communication terminals, networked Link-16, high-rate Ka-band	Laser communication terminals, infrared sensors, interoperability with transport layer	Global UHF and S-band broadcast & tactical networked communications (IBS-L and TACSATCOM), laser communication terminals	Production extension of the Transport Layer of Tranche 1, targeted enhancements for increased capabilities and demonstrate the Warlock mission	Expanded coverage for missile warning and tracking of advanced missile threats, precision fire-control sensing for interception, interoperability with transport layer