



# **SPACE DEVELOPMENT AGENCY**

## **DELIVERING AGILE CAPABILITIES AT SCALE WITH SPEED TO THE WARFIGHTER**

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**JUNE 10, 2025**

**SEMPER CITIUS**



## SPEED. DELIVERY. AGILITY.

Recognized as the Department of Defense’s constructive disruptor for space acquisition, the Space Development Agency (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. 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.

**INNOVATION MVP**  
**AUTONOMY**  
**SPIRAL SPEED**  
**INCUBATE WARFIGHTER**  
**AGILITY** TRACKING  
**DISRUPTOR SENSORS**  
**TRANCHE PAYLOAD** RESILIENT  
**PROLIFERATE COMMUNICATE**  
**MISSILE** HYPERSONIC  
LOW-EARTH ORBIT

“Space is critical. Adversaries are going to attack space. It’s critical on the ground as well as in space, and a disaggregated architecture becomes more resilient and that matters in terms of creating combat capability.”

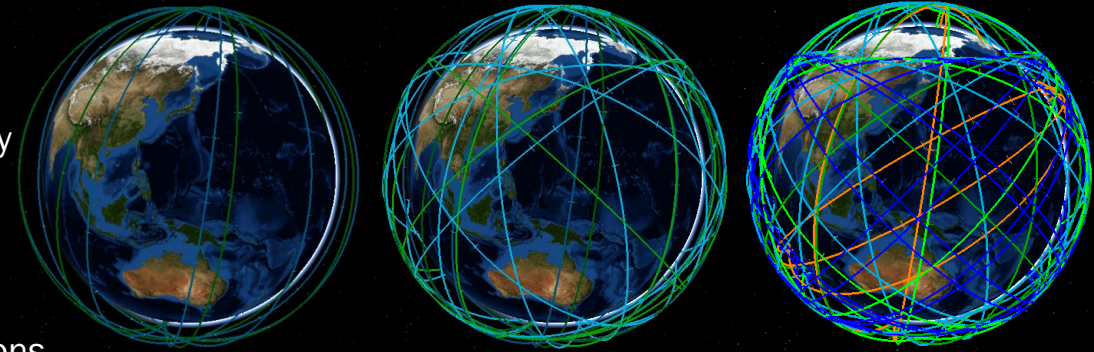
Gen. B. Chance Saltzman, Chief of Space Operations, *Air and Space Forces Magazine*, Jan 13, 2023





# PWSA CAPABILITIES BY TRANCHE



## Space-based Capabilities delivered in Spiral increments via Tranches

- ✓ **On Orbit** • Tranche 0: Warfighter Immersion – Demonstrate architecture feasibility
- Production** • Tranche 1: Initial Warfighting Capability : Deliver regional persistent capability
- Development** • Tranche 2: Enhanced warfighting capability: Global persistent capability with technology enhancements for tracking, data transport and navigation
- Planning & Design** • Tranche 3: Sustained capability: Global persistent access with enhanced sensitivity, accuracy and targeting capabilities; advanced laser-communications and tactical data links; resilient navigation; and autonomous operations

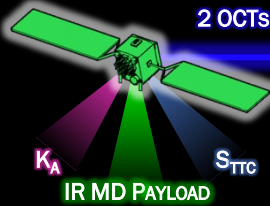


Capability		PWSA v1 (~FY27) Tranche 1	PWSA v2 (~FY28) Tranche 1 + Tranche 2	PWSA v3 (~FY30) Tranche 2 + Tranche 3
 <b>Communications and Data Transport</b>	<ul style="list-style-type: none"> <li>Data mesh connectivity with low latency</li> <li>Dissemination to theater targeting cells</li> <li>Direct-to-warfighter communications</li> </ul>	Persistent Regional Access	Persistent Global Access	Advanced Persistent Global Access
 <b>Missile and Hypersonics Tracking</b>	<ul style="list-style-type: none"> <li>Missile Warning and Missile Tracking sensors and on-board fusion</li> <li>Hypersonic Glide vehicle tracking</li> <li>Cueing to Missile Defense systems</li> </ul>	Near-Global Mono Coverage	Near-Global Stereo Coverage	Continuous Global Stereo Coverage
 <b>Target Custody</b>	<ul style="list-style-type: none"> <li>24/7 all-weather custody of missile and hypersonic threats</li> <li>Multiple phenomenologies and distributed sensing</li> <li>Dissemination to mission partners' fusion engines</li> </ul>			Global Access with multiple sensor phenomenologies
 <b>Resilient Navigation</b>	<ul style="list-style-type: none"> <li>Position, Navigation and Timing (PNT) Signal Service</li> <li>PNT Situational Awareness</li> <li>Alternate-PNT (A-PNT) service</li> </ul>	Resilient PNT	SDA PNT Signal Service augments resilient PNT	Expanded Resilience and Comm/Nav fusion

# PWSA TRANCHE 1 – INITIAL WARFIGHTING CAPABILITY (2025)

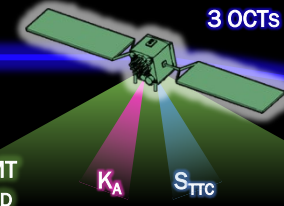


4 MD DEMONSTRATION  
TRACKING SVs  
(4 PLANES, MTD)



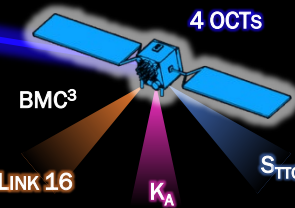
NORTHROP GRUMMAN L3HARRIS

28 MT/MW TRACKING SVs  
(4 PLANES, MWTD)



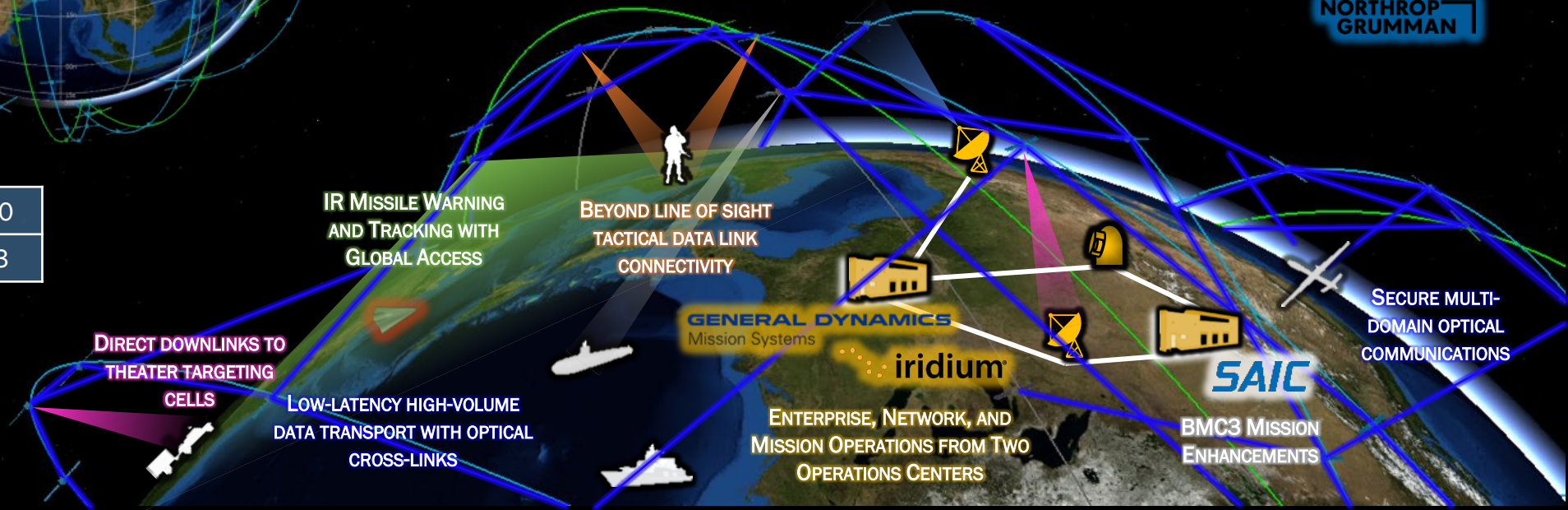
NORTHROP GRUMMAN L3HARRIS

126 TRANSPORT SVs  
(6 PLANES, BLOS)



YORK SPACE SYSTEMS LOCKHEED MARTIN NORTHROP GRUMMAN

ALTITUDE (KM)	1000
INCLINATION (DEG)	81.3

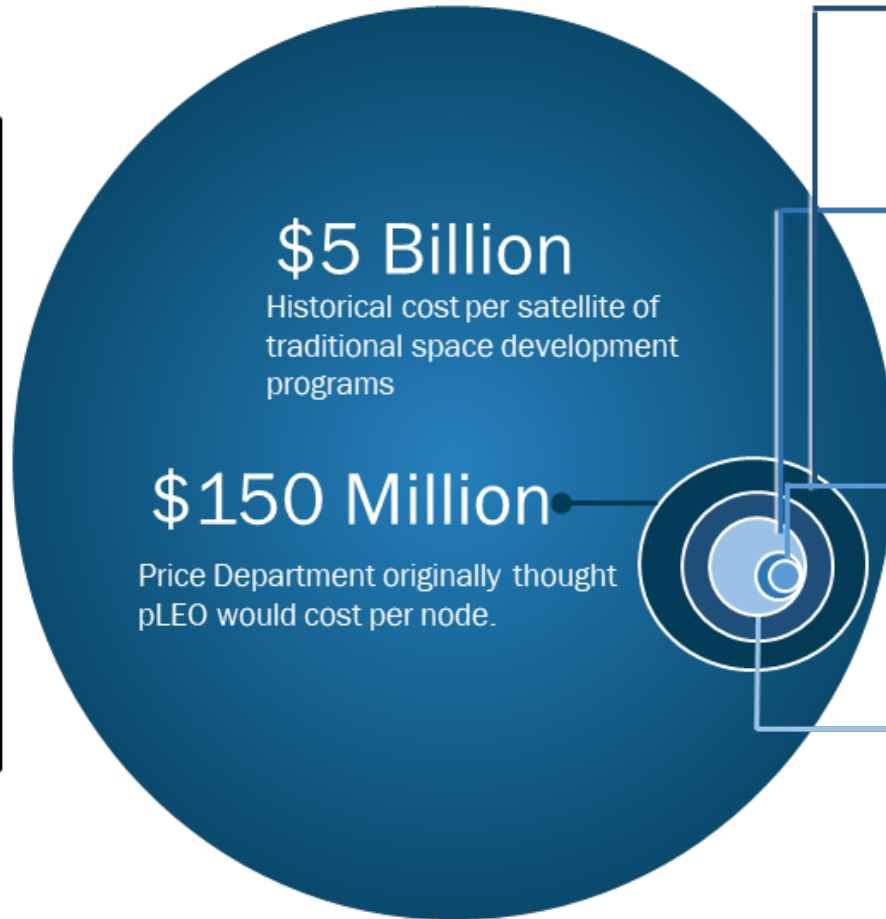


Version: 2024 05 31C

# DELIVERING CAPABILITY AT AN AFFORDABLE COST



**SDA IS ON PACE TO DELIVER INITIAL SPACE TRANSPORT CAPABILITIES ON THE AGENCY'S ORIGINALLY-ADVERTISED SCHEDULE AT A PRICE POINT ONCE DEEMED UNACHIEVABLE**



- **\$15-25 Million**  
Price per Transport satellite published in SDA's original budget.

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- **~\$15 Million**  
Average price per satellite for SDA's 20 satellite Tranche 0 Transport Layer.  
(Includes Non-Recurring Engineering costs)

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- **~\$14 Million**  
Approximate price per Tranche 1 Transport Layer satellite.

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- **~\$13 Million**  
Approximate price per Tranche 2 Transport Layer Alpha variant satellite at contract award.

\*Estimated costs do not include launches

SDA's business model supports the use of commercial space technologies and capabilities and commercially owned and operated services to *develop, augment and improve* the PWSA ...



## Spiral Development

SDA Incorporates new technologies and capabilities **every two years**



## Competitive Marketplace

SDA predictably solicits for new capabilities through competitive solicitations



## Interoperability

Development of **standards** and **open systems architecture**



## Affordability

Acquisition of **commercial commoditized spacecraft** and purchasing at scale to drive down cost

## ... While Enhancing the Industrial Base...

- ✓ Pathfinder and risk-reduction experiments
- ✓ Active SBIR and STTR Programs
- ✓ Transition Partner for DoD R&D
- ✓ STRATFI and TACFI funding support

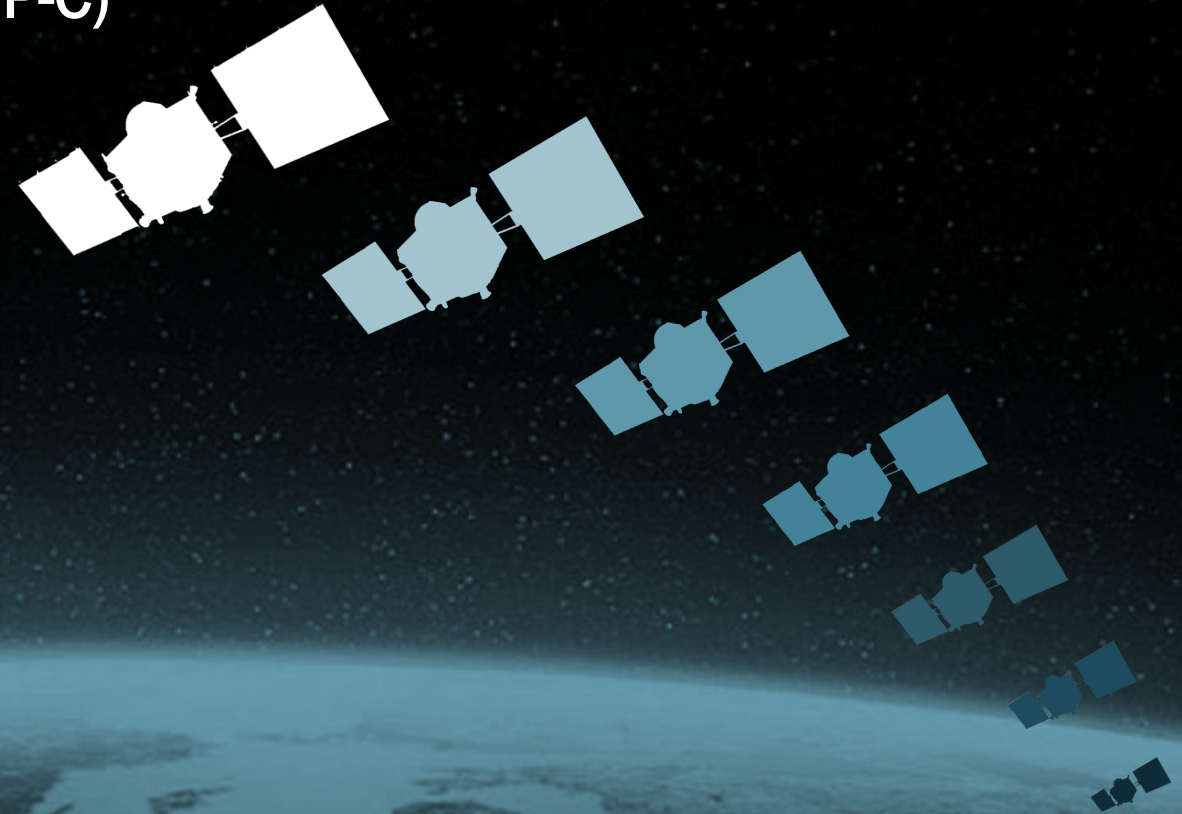
## ... and Supporting Research Institutions

- ✓ University Partnerships
- ✓ Federally-funded R&D Centers
- ✓ University-affiliated R&D Centers

# SCIENCE AND ENGINEERING CHALLENGES



- **Low Size, Weight, Power and Cost (SWaP-C)**
- **Multi-functional Sub-systems**
- **Extensible Architectures**
  - New modalities
  - Interoperability with on-orbit systems
  - Commercial / Dual-use systems
- **Technology Refresh**
  - Software-upgradeable systems
  - Backward compatibility
- **Distributed Intelligence**
  - Autonomous operations
  - On-board AI/ML
- **Life-cycle Management**
  - Space-hardened systems
  - Rapid maneuvering for exigent operations
  - De-orbit and replenishment



# 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.

SEMPER CITIUS