



# ***AFCEA Luncheon***

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# A Transformed Space Domain



Photos: SpaceX, NASA

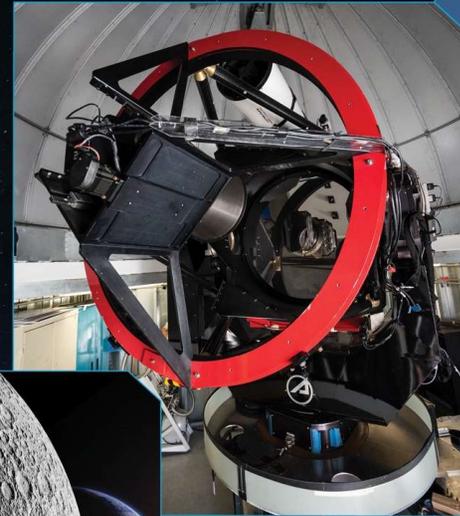


Photo: Terran Orbital



Photo: ULA

# Forging Connections Across the Space Enterprise

## The Benefits of Working with a Trusted Partner

- Independent and unbiased nonprofit organization
- Broad perspective across mission areas
- Unparalleled support as convener and connector
- Unique insight into complex problems
- Connect end-to-end insights to inform high-impact decisions



# The Only FFRDC Dedicated to the Space Enterprise

A photograph of a SpaceX Falcon Heavy rocket being mated to the Mobile Launcher Platform on the Vehicle Assembly Building. The rocket is oriented vertically, and the building's structure is visible to the right.

**UNPARALLELED  
TECHNICAL EXPERIENCE**

Photo: SpaceX

A view of Earth from space, showing the planet's curvature and atmosphere. A network of blue lines and dots represents a global satellite constellation or data network overlaid on the Earth's surface.

**ENSURING A RESILIENT  
SPACE ENTERPRISE**

A photograph of the International Space Station (ISS) in orbit above Earth. The station's complex structure, including multiple modules and large solar panel arrays, is clearly visible against the blackness of space.

**COMMITTED TO  
ADDRESSING FUTURE NEEDS**

Photo: NASA



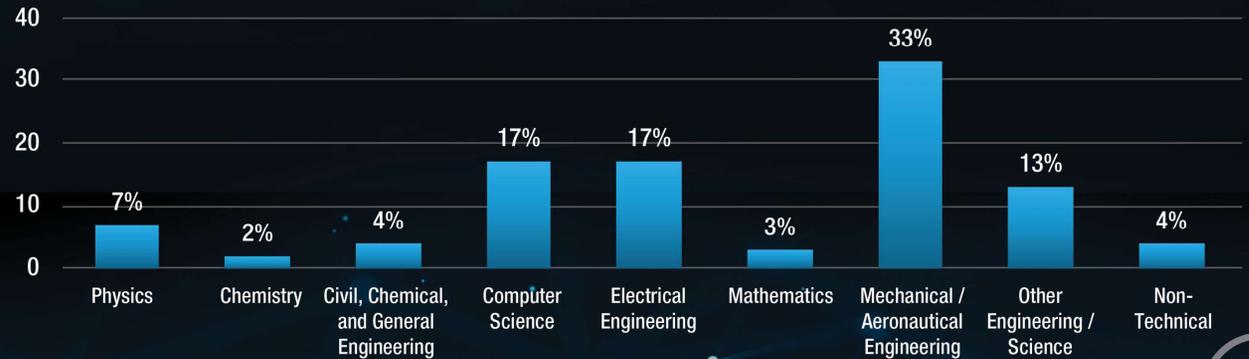
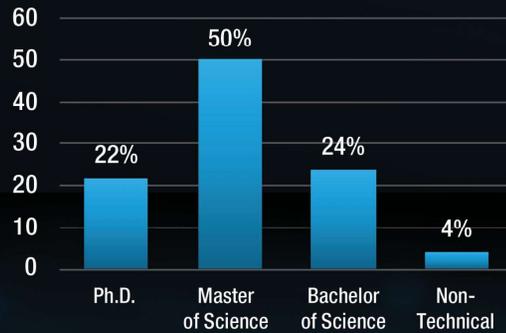
# Aerospace by the Numbers

**4,847** EMPLOYEES

**\$1.4B** REVENUE IN 2025

**79%** TECH STAFF  
MORE THAN 800 Ph.D.s

## TECHNICAL STAFF DETAILS





# ETG Matrix Technical Expertise

## ENTERPRISE EFFECTS

Enterprise Design

Integrated Performance

Mission Operations

Enterprise Integration Solutions

### MISSION PAYLOADS

- > Electronics engineering
- > Sensor systems
- > Remote sensing signals and analytics
- > RF and optical communications
- > Communication and network architectures
- > Communications systems and agile processing

### INFORMATION SYSTEMS AND CYBER

- > Computer technology
- > Data science
- > Software engineering
- > Software assurance
- > Software systems acquisition
- > Ground and flight systems
- > Cybersecurity
- > Machine learning engineering

### VEHICLE SYSTEMS

- > Guidance, navigation, and control
- > Embedded systems
- > Flight mechanics
- > Fluid dynamics
- > Propulsion
- > Thermal control
- > Structures and mechanisms
- > Ordnance
- > Dynamic loads and environments
- > Vehicle engineering

### SYSTEMS ENGINEERING

- > Cost and schedule engineering
- > Systems engineering assessment and acquisition support
- > Program analytics and economic market analysis
- > Reliability and failure analysis
- > Risk planning, assessment, and management
- > Systems integration

### PHYSICAL SCIENCES LABORATORIES

- > Exploitation of air and space environments
- > Prototype development
- > Spectroscopy and remote sensing
- > Atomic clocks and precision timing
- > Laser applications
- > Microelectronics evaluation
- > Space power
- > Contamination
- > Propulsion sciences
- > Advanced manufacturing
- > Materials processing

## DIGITAL INNOVATION

Artificial Intelligence Integration

Capability Transformation

Mission Information Technology

Data and Software Operations



# Positioning Aerospace for our Customer's Future

## KEY INGREDIENTS TODAY – OUR SECRET SAUCE

- **Depth on demand, often viewed as a national resource**
- Present with our customers
- Breadth of expertise within and across programs

## ADJUSTMENTS FOR THE FUTURE

- **Enterprise Approach** – Organized with skills to close the product “kill chain”
- **Greater Speed and Agility** – Quickly shift resources and bring results to customers
- **Innovate** – Bridge industry and USG thru engagement, architecture, and competition
- **Beyond Hardware** – Expand further into ground operations, software and data
- **Diversify Business Base** – Pursue emerging opportunities and partnerships

BREADTH OF EXPERTISE

DEPTH OF TECHNICAL  
EXPERTISE



# Making Transformations for Evolving Needs

## Strategic shifts

### REVISED CORE COMPETENCIES

1. Force design and architecture development
2. System of systems engineering and integration
3. System design, development, acquisition, test, mission readiness, operations and sustainment
4. Concept development and prototyping
5. Technology assessments, applications, and transition
6. Decision support, and integration and dissemination of industry best practices

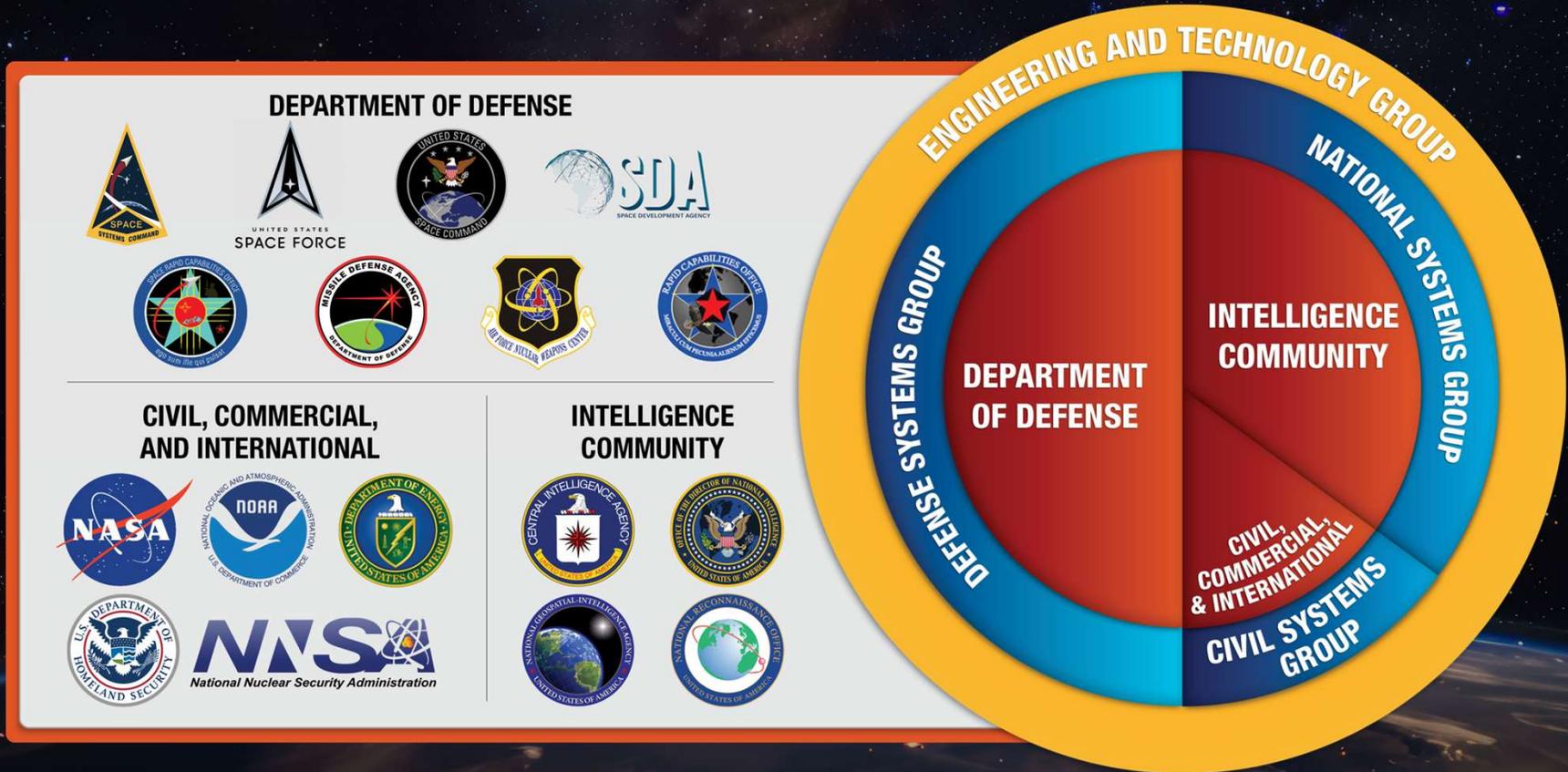
### FY26 PTS PRIORITIES (SAF/SQ)

- A. Increase support to multi-domain warfighting via resilient space capability and advanced space control capability
- B. Expand efforts on integrated & interoperable battle management command, control, and communications systems
- C. Enhance joint force lethality & strategic deterrence
- D. Strengthen integration of commercial & international capability
- E. Enhance focus on delivery of ground capabilities before launch
- F. Improve relevance, integration of science & tech effort
- G. Maintain investments in next generation force designs
- H. Ensure end-to-end capabilities, close kill-chains
- I. Address technical debt from rapid programs
- J. Support continued Space Force digital transformation and cross-program integration efforts

**Aerospace strategic shifts enable us to better serve in the new space environment**



# Integrating End-to-End Across Missions, Systems, and Customers





# Aerospace AI Vision & Strategy

## STRATEGIC OUTCOMES



## LINES OF EFFORT

### AI Applications



Leverage rapid advances in AI toward innovations in AI for Space

### AI Mission Assurance



Evolve mission assurance expertise to include challenges associated with AI-enhanced space systems

### AI Governance



Expedite the transformation to faster AI-enabled missions, systems, and business functions

### AI Partnerships



Drive strategic partnerships to enhance AI capabilities, drive innovation

### AI Fluent Workforce



Recruit, train and sustain a talented and capable workforce to meet demand for AI capabilities

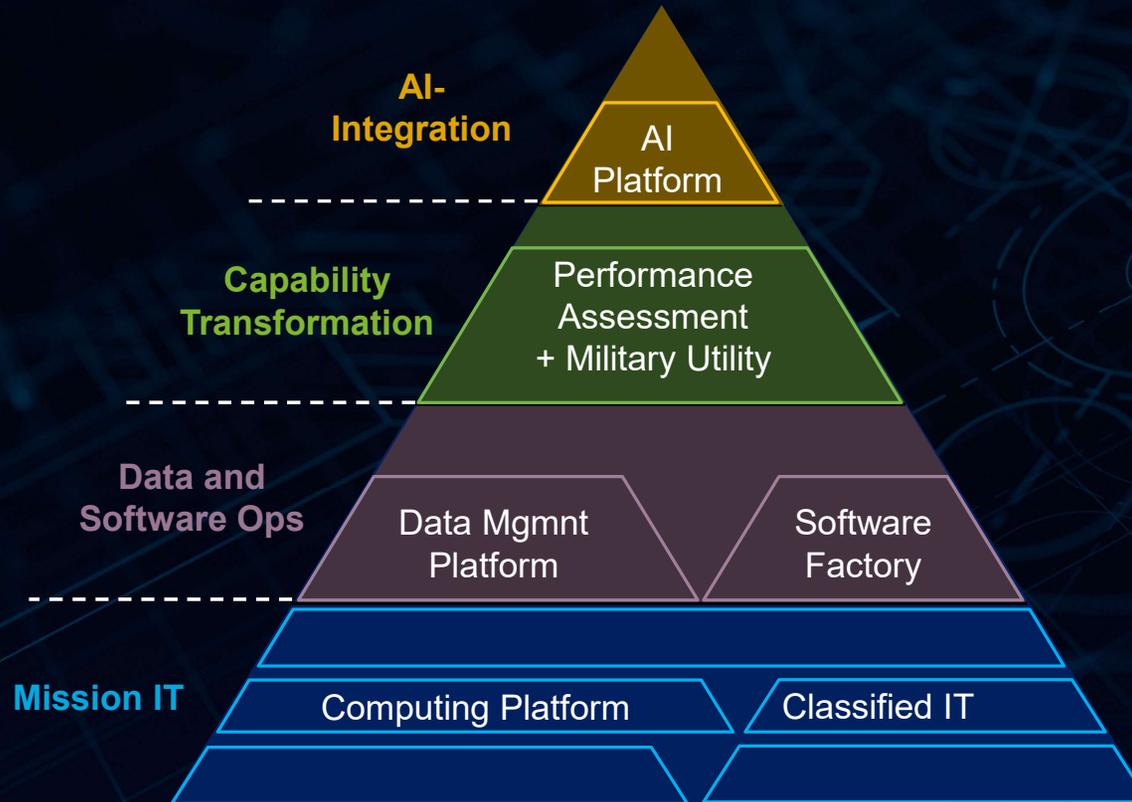
### AI Infrastructure



Transform Aerospace's AI Infrastructure to enable internal and customer deliveries



# Digital Transformation Investments Paying Dividends for Customers



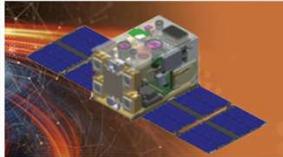


TECHNICAL EXCELLENCE

## Prototypes Areas of Focus

xLab delivers solutions across a wide range of mission domains in close partnership with ETG and Program Offices.

### CUBESATS AND SMALL SAT PLATFORMS



### OPTICAL COMMUNICATION AND DATA LINKS



### SPACE WEATHER PAYLOADS AND RADIATION SENSORS



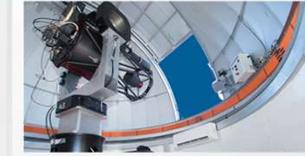
### HYPERSPECTRAL AND REMOTE SENSING INSTRUMENTS



### GROUND-BASED SYSTEMS FOR TESTING AND CALIBRATION



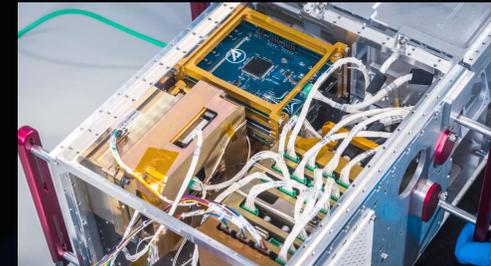
### INTEGRATED TESTBEDS FOR MULTI-DOMAIN EXPERIMENTATION





# Customer Adoption – Innovating New Technology and Approaches

- **Internal Investments Leading to New Technology/Capabilities**
- **Transition of prototype capabilities for customer adoption**
  - Handle 2.0
    - Version 1.0 demonstrated in orbit during Aerospace's Slingshot 1 mission, launched July 2022
    - Falcon ExoDynamics contracted by USSF for further development, Dec 2025
    - Expected launch in late 2026
  - DiskSat
    - Demonstration mission launched December 2025
    - Ongoing tech transfer efforts for commercialization: <https://aerospace.org/disksat>



Handle 2.0



DiskSat



# ***Closing Thoughts***



***Backup***



# Forging Connections Across the Space Enterprise

## Our Vision

The nation's trusted partner, solving the hardest problems for the preeminent space enterprise.

## Our Values

- Dedication to Mission Success
- Technical Excellence
- Commitment to Our People
- Objectivity and Integrity
- Innovation

