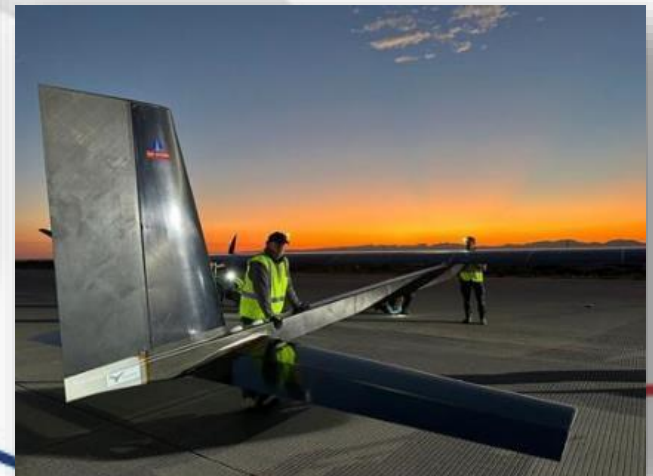


The GATEWAY TO SPACE®

# Update on Spaceport America Transportation Infrastructure Revenue Subcommittee

Monday, October 23, 2023

Scott McLaughlin  
Executive Director



 **SPACEPORT AMERICA**

THE SPACE TO BE...

# Outline

- Activity Review
- Capital Projects and Facilities Maintenance Updates
- Budget and Economic Impact
- Business Development

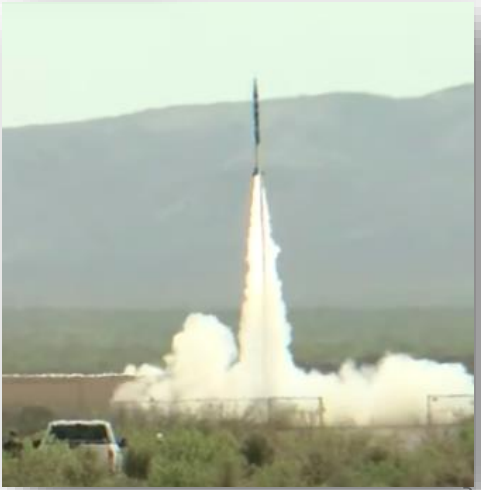
# Activity Review



# Site Activity

- **USAF Thunderbirds** winter training
- Three HAPS (**High Altitude Platform System**) customers have been testing on site
- Liquid engine testing by **Phantom Aerospace**
- **U.S. Military Academy** (West Point) flew student rockets
- **Virgin Galactic** flew to space on May 25<sup>th</sup>, Jun. 29<sup>th</sup>, Aug. 10<sup>th</sup>, Sep. 8<sup>th</sup>, and Oct. 6
- **UP Aerospace Rocket** launch had rare anomaly during May launch, will launch early 2024
- Another **kinetic launch** customer considering operations at SpA
- **Suborbital liquid rocket launch** in early 2024
- Other **small UAV** training and testing
- Continued operations by **SpinLaunch**
- **STEM Outreach** including virtual, site tours/demos etc.
- The **Spaceport America Cup** was held the week of June 20
- **Prismatic** succeeded in first milestone high altitude flight
- Participated in **Dona Ana County intern** program and continuing with other interns
- **Electric car manufacturer** battery testing
- [www.youtube.com/spaceportamerica](https://www.youtube.com/spaceportamerica) has updates and review of activities

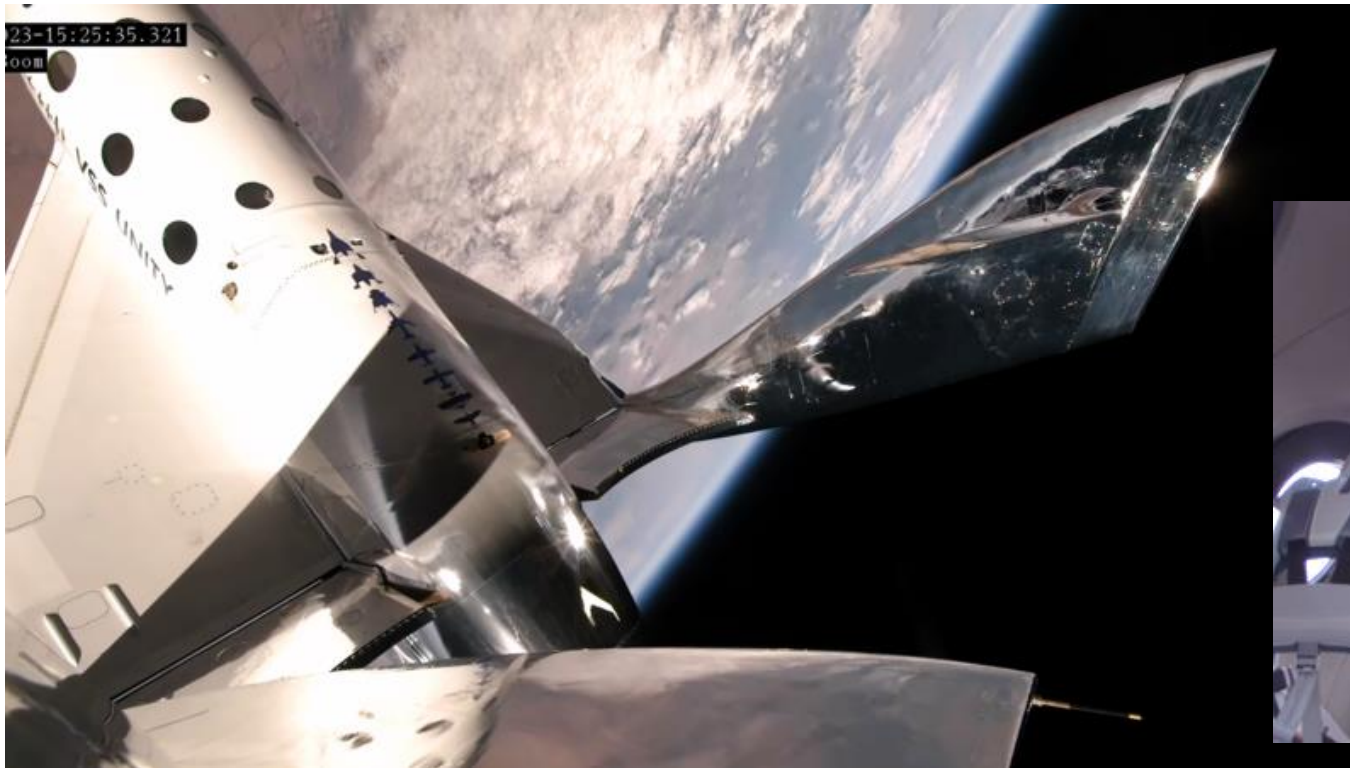
# Activity Picture





# Virgin Galactic Status

- Recommend: <https://investors.virgingalactic.com/events-and-presentations>
- Flights: **U25** - May 25, **G-01** - Jun. 29, **G-02** - Aug. 10, **G-03** Sep. 8, **G-04** - Oct. 6
- Will fly about every 4 weeks (next flight **G-05** scheduled Nov. 2)
- Significant press worldwide



# Galactic 02 Media Results from VG

## GALACTIC02 RESULTS-AT-A-GLANCE

**17,000+**

**EARNED MEDIA  
PIECES**

**3,814**

**BROADCAST  
HITS**

**36.34B**

**MEDIA  
IMPRESSIONS**

**938**

**B-ROLL HITS**

**92%**

**NEUTRAL TO  
POSITIVE IN TONE**

**45+**

**PRESS ON-SITE**

# New Viewing Lot near Front Gate

- Outside of security, so public can simply park and watch





# Prismatic/BAE Systems



- Prismatic completed a successful stratospheric test flight of their PHASA-35 HAPS/UAV glider in late June of 2023
- PHASA-35 exceeded 66,000 feet in test flight
- Potential applications in intelligence, surveillance, recon and communication network delivery
- Successful trial is the first in a series to confirm system performance with the intent of making it available globally
- Prismatic acquired by BAE Systems in 2019. BAE is Great Britain's largest manufacturer and is one of the six largest suppliers to the US Department of Defense

# STEM and Outreach

- 22 STEM Events in FY22, reaching about 1800 students
- So far in FY23 have served about 3,000 students (that includes Dr. Bill Gutman going to every 6<sup>th</sup> grade class in the district, which is about 1,700 students)
- Recent tour events include Central Elementary, Girl Scouts, Lynn Middle School, Roswell HS, Mimbres Valley HS, Socorro HS, Picacho Elementary, and more.
- Participated in Mesa Middle Career Day, NM Workforce Connection, Global Spaceport Alliance Pathways Series, Las Cruces Space Festival Aerospace Industry Night





# 2023 Spaceport America Cup

- 2023 was the largest to date (5,901 participating, with about 1,651 in NM)
- NMSU, UTEP, and NM Tech all participated; NMSU won the Chile Cup
- 17 countries, 38 states, 8.9M earned media impressions, ~115 rocket flights
- Next year: June 17-22, 2024; see: <https://www.youtube.com/@esrarocket>





# 2023 Spaceport America Cup





# Spaceport America Cup Supporters



**SPACEPORT AMERICA<sup>®</sup> CUP**  
June 19-24, 2023



**20  
23**

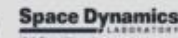
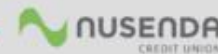
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hero<sup>x</sup>



t-minus  
SPACE HAVES



# Capital Projects and Maintenance Update



# Infrastructure Improvements

- **SOC Repairs** almost all completed including \$2M to start work on **taxiway** and \$1.5M for **general infrastructure upgrades**
- **Launch Rail** manufacturing and construction under way
- **Extending electricity** to several locations in VLA (waiting on transformers)
- **Gravel roads in VLA** added and improved
- Working on **repairs for HLA paved roads**
- Design-build contract for **STARC building** awarded to Buffalo Design Architects
- **Master Plan** contract awarded to RS&H, Populous, and Zia Engineering
- **GTS Roof** repairs completed and maintenance plan being developed
- **Runway assessment** and **taxiway** being worked on
- Legislature approved FY24 ICIP\*
- **Cell phone tower antenna** with 2 carriers will be on site soon
- VG Replica **Accessibility Improvements** and **Viewing Lot** completed
- Implementing **Facilities Management** software for entire site
- **General purpose hangar** being designed
- Improved **county road from HLA to VLA** under review and development
- Installing **reverse-osmosis system** to prevent continuing corrosion of water system and fire apparatus part

\*Infrastructure Capital Improvement Plan

# Example Site Maintenance Issues: Hard-water

1. Degrading water infrastructure pipe. Puts sitewide water utilities at risk.
2. Degrading fire equipment. Put fire response trucks and equipment at risk.
3. Degradation of equipment and pipes within buildings.
4. Below are photos showing water supply infrastructure degradation
5. Installing reverse-osmosis system later this year





# Vertical Launch Area Electrical

- Electricity is needed by all customers and for all activities at VLA
- Will increase customer usage and revenue
- Allows further expansion of facilities
- Cost for the project: \$1.8 million.





# CAPITAL PROJECTS – COMPLETED UPGRADES



## \$2.1 million dollar Space Operations Center Interior & Exterior repairs and upgrades

**Interior Scope:** Repairs to drywall, storefront windows, new interior finishes upgrades.

**Exterior Scope:** Site grading, soil stabilization and new concrete/asphalt surfaces. **Duration:** 6 months.

**Site Engineer:** Lilley Engineering, a Las Cruces NM based firm. **Contractor:** Summit Construction, an Albuquerque, NM based firm.





# CAPITAL PROJECTS – COMPLETED UPGRADES



**BEFORE**

**\$160,000 Spaceship Replica ADA Accessibility and Public Viewing Lot upgrades** aimed at enhancing safe access to iconic Spaceport areas. **Duration:** 3 weeks. **Contractor:** Mans Construction, a Las Cruces based firm.

**AFTER**



**Spaceport America Vertical Launch Area**



**\$2.8 million dollar Vertical Launch Area Access Road upgrades** providing safe all-weather access to customer rocket staging and launch areas. **Duration:** 8 months. **Contractor:** Mans Construction, a Las Cruces based firm.

## Access Road Improvements

All weather access to Vertical Launch Area from the north Spaceport America complex.  
Project Budget: \$5 million



## Launch Rail System

Remote steered launch rail system capable of supporting 2,000 lb. sounding rocket. Will launch customers.  
Project Budget: \$1.7 million





# UPCOMING CAPITAL PROJECTS

## STARC Project

Spaceport Technology and Reception Center Project.  
Project Budget: ~ \$18 million  
Currently in design phase



## Spaceport Taxiway Addition

And runway maintenance upgrades.  
Project Budget: \$25 million



## General Purpose Hangar

Spaceport General Purpose Aviation Hangar  
Project Budget: \$7-10 million



# ICIP Request

## **1. Gateway to Space Roof Improvements – 2025**

To plan, design and remodel existing roof at the GTS building (repair or replace).

## **2. Spaceport Technology and Reception Center – 2025**

To plan, design, and construct a new technology and reception center.

## **3. Infrastructure Improvements - 2025**

Improvements and expansion, includes internal roads, parking, utilities (power, water, waste management, telecommunications, internet).

## **4. Taxiway – 2025 / 2029**

Full-length taxiway, runway upgrades, drainage, aprons, aircraft parking areas.

## **5. Aircraft & Vehicle Ops Facility – 2025**

To plan, design and construct a new aircraft, vehicle and equipment hangar.

# NMSA Budget





# NMSA Budget Notes

- A shortage of employees has been an impediment to handling increased operations, business development, and infrastructure improvements; two new positions were authorized in 2023: 1) Manager of Infrastructure, 2) Manager of protective services; have also hired construction project managers
- SpA is about 60% self-funded, with inherent variability in customer revenue and expenses (e.g., maintenance and repairs)
- Customer revenue recognition takes a while (up to 18 months) before it can be used to support operations, presenting unique challenges in providing services and balancing the current year budget

# NMSA Budget vs Actual (thousands)

As of 10/23/23

	FY23 Actual <sup>1</sup>	FY24 Budgeted	FY24 Projected	FY25 Request	Notes
<b>Operating Revenue</b>	\$7,362	\$7,330	\$7,330	\$8,681	Customer fees, leases, utilities, fuel
<b>General Fund</b>	3,791	4,247	4,247	4,626	
<b>Revenue Total</b>	11,153	11,577	11,577	13,307	
<b>200 Personal Services</b>	2,613	3,538	3,538	3,881	
<b>300 Contract Services</b>	5,660	5,655	5,655	6,065	
<b>400 Other Costs</b>	2,819	2,384	2,384	3,361	
<b>Expense Total</b>	11,092	11,577	11,577	13,307	
<b>Fund Balance Transfer<sup>2</sup></b>	1,325	0	0	0	
<b>Net Result</b>	\$1,386	\$0	\$0	0	

## Notes:

1. FY23 actual are unaudited numbers.
2. Fund transfer is based on 5% BAR and Appropriation Fund Balance Transfer

# Economic Impact 2022

- Study completed by **NMSU Center for Border and Economic Development** (<https://cbed.nmsu.edu/>)
- Released on Friday, August 25, 2023
- Impacts include tenant employment (direct, indirect, induced), privately funded construction, out of state visitor spending, and spaceport customer revenues.

**Table 14 - Total Economic Impact, Spaceport America, 2022**

<b>Impact</b>	<b>Employment</b>	<b>Labor Income</b>	<b>Value Added</b>	<b>Output</b>
1 - Direct	548	\$30,608,919	\$35,615,913	\$87,880,353
2 - Indirect	144	\$9,294,889	\$12,911,142	\$25,980,079
3 - Induced	118	\$5,193,673	\$10,421,659	\$18,254,754
<b>Total</b>	<b>810</b>	<b>\$45,845,649</b>	<b>\$60,435,345</b>	<b>\$138,080,756</b>

From NMSU Spaceport America 2022 Economic Impact Study



# BUSINESS DEVELOPMENT



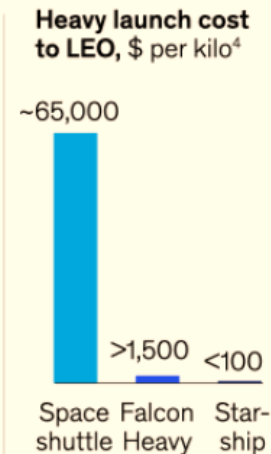
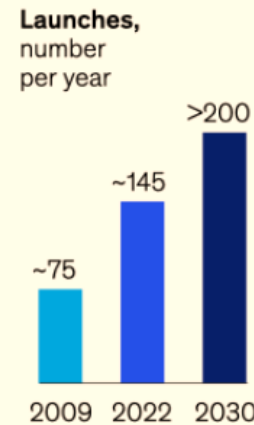
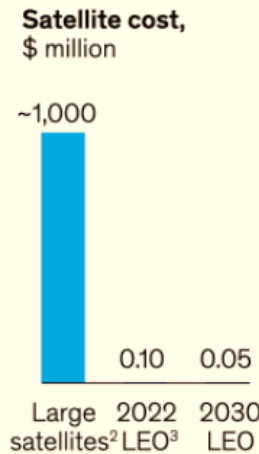
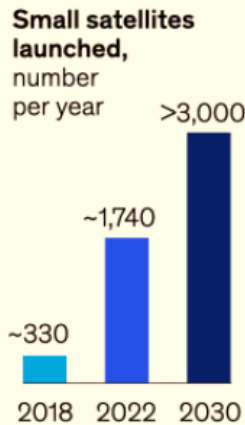
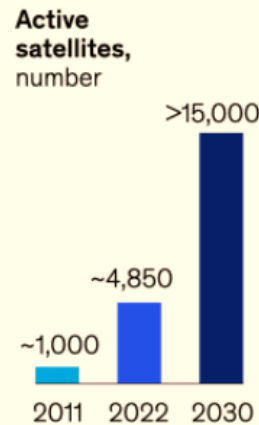
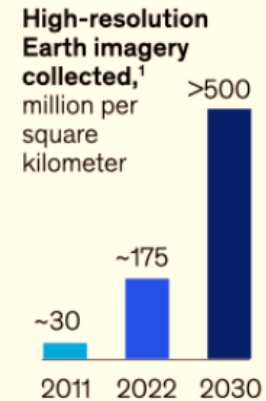
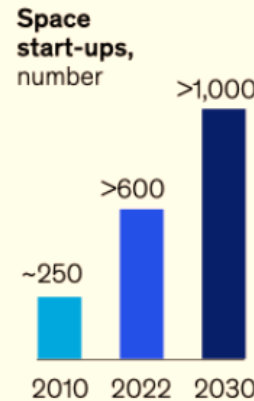
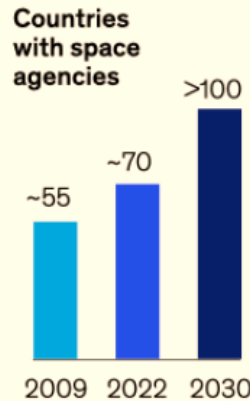
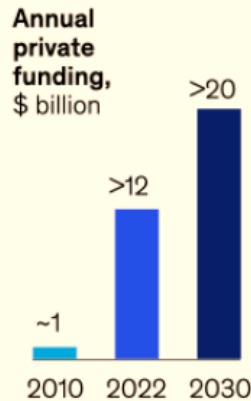
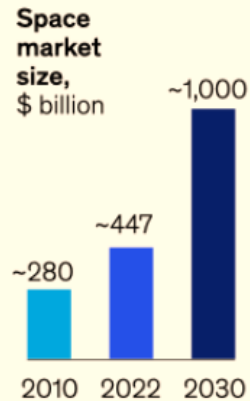
# Business Development

- Working on **FAA reentry license**, to support companies like Sierra Space
- Working with **Commercial Spaceflight Federation (CSF)** for federal funding for commercial spaceport (bill introduced by Sen. Lujan and Sem Hickenlooper)
- Attend and market at various **aerospace conferences**
- **Planning agreements** in place with various companies
- Increasing interest from **horizontal launch** developers, especially regarding future need for space cargo
- Note that the commercial **space economy** is continuing to grow: (<https://tinyurl.com/2qh2ns64>)

# Headed to \$1T by 2030

The space sector has come a long way and seems poised for future growth.

## Projections for space activities



From McKinsey, and Co. (<https://tinyurl.com/2ls39tgw>)



# Space Valley...

- NM has an opportunity to connect and grow “Los Alamos to El Paso” into **Space Valley**, as an economic region, like Silicon Valley, etc.
- The goal is to enable a **complete aerospace ecosystem** to include research and development, entrepreneurs, funding, manufacturing, workforce development, test, and operations.
- This is possible since NM has **Los Alamos National Laboratory, Sandia National Laboratories, USAF Research Laboratory, White Sands Missile Range (WSMR), USSF Space Rapid Capabilities Office, and US Army Ft. Bliss.** And significant design and manufacturing exist in Albuquerque and El Paso, there are 100+ aerospace companies in the region, and 4 universities with very good aerospace programs.
- Uniquely, the region also has an active spaceport, which is acting to tie many of these activities and entities together.

# U.S. Spaceports



## MAP LEGEND

- States with Current Spaceports
- 📍 FAA-Licensed Launch Site
- 📍 FAA-Licensed Reentry Site
- ★ U.S. Federal Site
- ◆ Exclusive Use Site (Non-FAA Licensed)

## FAA-LICENSED SITES

### LAUNCH HORIZONTAL

- 📍 Cecil Spaceport
- 📍 Colorado Air & Space Port
- 📍 Houston Spaceport
- 📍 Midland International Air & Space Port
- 📍 Mojave Air & Space Port

- 📍 Oklahoma Spaceport
- 📍 Space Coast Regional Airport
- 📍 Space Florida Launch & Landing Facility (SLF)
- 📍 Spaceport America

### LAUNCH VERTICAL

- 📍 Mid-Atlantic Regional Spaceport
- 📍 Pacific Spaceport Complex Alaska
- 📍 Spaceport Camden
- 📍 Space Florida Launch Complex 46
- 📍 Spaceport America

### REENTRY SITE

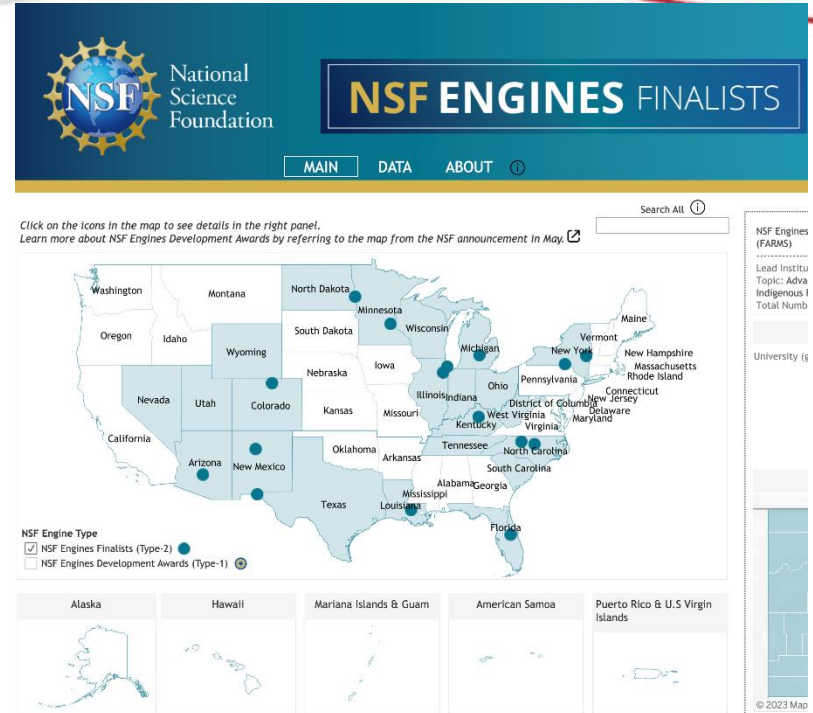
- 📍 Huntsville Reentry Site
- 📍 Space Florida Launch & Landing Facility (SLF)

Source: FAA/AST May 2022

# SVC, EDA, AND NSF



- **Space Valley Coalition -**  
<https://spacevalley.org/>
- **EDA BBB** (<https://tinyurl.com/2hk3ot49>)
- **NSF Regional Innovation Engines Grants**  
(<https://tinyurl.com/2dmswnvl>)
  - 1) **Paso del Norte Innovation for Defense and Aerospace (IDEAL) Engine** (El Paso and UTEP)
  - 2) **Space for Earth, Space for All: Space Valley's Role in Securing America's Economic and Political Future** (Albuquerque and SVC Partners)



CITY OF ALBUQUERQUE



CNM COMMUNITY COLLEGE

CNM Ingenuity, Inc.

CNM INGENUITY



NEW MEXICO INTERNATIONAL TRADE ALLIANCE



NEWSPACE NEW MEXICO

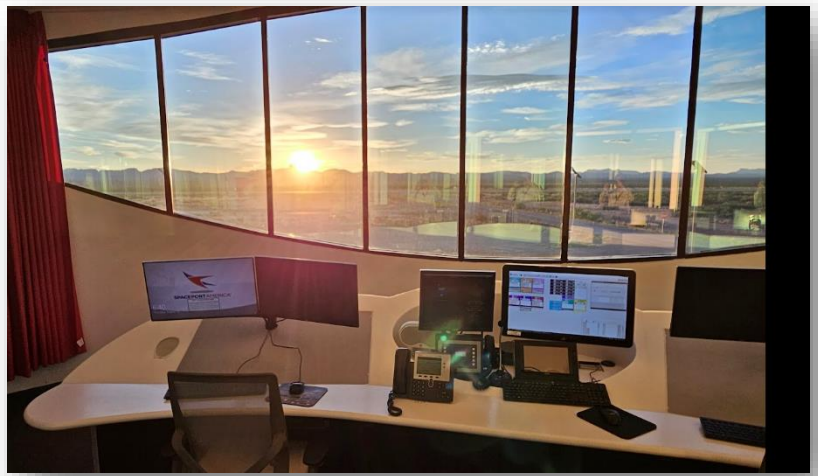


NEW MEXICO SPACEPORT AUTHORITY





# THANK YOU FOR YOUR TIME



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