Outline
3 charts - background
4 charts – spaceport status, attributes, vision forward
2 videos - sub-orbital examples
1 chart Spaceport America Cup Results
OSD/OEA - JOINT LAND USE STUDY
JLUS Regional Area of Operations
Primary Land & Terrain

- White Sands owns 3,200 sq. miles (5,149 sq. kilometers)
- Lease agreements add 2,343 sq. miles (3,771 sq. kilometers)
- Partner with Ft. Bliss add 1,562 sq. miles (2,514 sq. kilometers)

Total Land Space
7,619 sq. Miles (19,732 sq. km)
Extend Long Range Air Corridors
U.S. COMMERCIAL SPACEPORTS

The Commercial Space Industry is $330B per year & growing

Key
- U.S. Federal Launch Site
- Non-Federal FAA-Licensed Launch Site
- Owned by University of Alaska Geophysical Institute
- Sole Site Operator

Spaceport America = 40 Sub-Orbital Vertical launches, 10 were to space; IREC another 60 Vertical launches; 8 major Horizontal Flight efforts
Spaceport America’s strategic advantage = 6,000 sq. miles of restricted airspace in collaboration with U.S. Army White Sands Missile Range.

FAA Command and Controlled Airspace
Other Air Space

Commercial Air Traffic routes around WSMR
Spaceport America is a National Treasure

- We are uniquely located and provide routine access to space that does not exist anywhere else in the country!

- The R5111 & R5107 complex are surface to unlimited controlled by DoD

**Spaceport America Key Attributes**

- 340+ days of sunshine
- Launch starts at elevation of 4,600 ft above sea level
- No damage from salt air corrosion
- Low population density
- Remote location and 24/7 security offers privacy
- Access to 6,000 sq mi of restricted airspace

Access to Space - 24/7 through our WSMR partnership!
SPACEPORT AMERICA
CURRENT & FUTURE GROWTH

• **Sub-orbital - focus on Research/Astronaut Experience/University Support**
  *We have three of the top four NASA FOP Sub-orbital Vertical Launch Operators!*

• **Orbital — with the right technologies**
  *Spaceplane, Single-Stage to Orbit, Returnable Booster, etc.*

• **Transportation Hub — a full service Spaceport!**

**Goal is to develop a primary inland spaceport for:**
Commercial Space,
Civil Space,
National Security Space

**Vertical Launch/Landing Capability**
**Hypersonic Support/Testing**
**Horizontal Launch/Landing Capability**

**Current Capital Outlay Program $46M**
*(Payload Assembly & Integration Facility, SKIF, etc.)*

100 Rocket Launches To Date
Spaceport America
Current & Future Growth

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**Current Capital Outlay Program $46M**

(Payload Assembly & Integration Facility, etc.)
SUB-ORBITAL EXAMPLE
SPACEPORT AMERICA CUP RESULTS
INTERCOLLEGIATE ROCKET ENGINEERING COMPETITION

10,000 FT AGL APOGEE WITH COMMERCIAL-OFF-THE-SHELF (COTS) SOLID OR HYBRID ROCKET PROPULSION SYSTEM
First Prize- Team 70 - University of British Columbia
Second Prize- Team 35 - Massachusetts Institute of Technology

30,000 FT AGL APOGEE WITH COTS SOLID OR HYBRID PROPULSION SYSTEM
First Prize- Team 57 - Stanford University
Second Prize- Team 53 - Ryerson University

10,000 FT AGL APOGEE WITH STUDENT RESEARCHED AND DEVELOPED (SRAD) SOLID ROCKET PROPULSION SYSTEM
First Prize- Team 103 – West Virginia University
Second Prize- Team 41 – Missouri University of Science and Technology

30,000 FT AGL APOGEE WITH SRAD SOLID ROCKET PROPULSION SYSTEM
First Prize- Team 61 – The Ohio State University
Second Prize- Team 69 – University of Arizona AIAA

10,000 FT AGL APOGEE WITH SRAD HYBRID OR LIQUID ROCKET PROPULSION SYSTEM
First Prize- Team 96 – University of Waterloo
Second Prize- Team 58 – Texas A&M University

30,000 FT AGL APOGEE WITH SRAD HYBRID OR LIQUID ROCKET PROPULSION SYSTEM
First Prize- Team 79 - University of Michigan, Ann Arbor
Second Prize- Team 95 – University of Washington

The 2017 Spaceport America Cup winner is the University of Michigan
Spaceport America

Space of the Free and Home of the Braves Journey

Ad Astra Ad Infinitum
BACKUPS
## SPA - Capital Improvement Plan

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA Facilities Upgrades</td>
<td>Major repairs and upgrades on existing facilities at Spaceport America to include electrical, HVAC, fire suppression, water, sewage, security, mission control and other building systems.</td>
<td>500,000</td>
</tr>
<tr>
<td>Launch Vehicle Integration Facility</td>
<td>Construction for a new facility at Spaceport America for launch vehicle payload integration</td>
<td>20,000,000</td>
</tr>
<tr>
<td>Fuel Farm Installation</td>
<td>Construction for new fuel farm installation to include planning, design, and construction of concrete foundation, fuel tanks, electrical, support vehicles, and other infrastructure.</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Spaceway Taxiway</td>
<td>Construction for improvements to the Spaceway at Spaceport America including taxiway infrastructure</td>
<td>20,000,000</td>
</tr>
<tr>
<td>Vertical Launch Area (VLA) Improvements</td>
<td>Major repairs in the Vertical Launch Area at Spaceport America to include electrical, communications, security, launch infrastructure/facility upgrades.</td>
<td>500,000</td>
</tr>
</tbody>
</table>

**Total cost:** $46,000,000
JLUS Regional Air Space

- FAA Command and Controlled Airspace
- Other Air Space

Commercial Air Traffic routes around WSMR
US SPACEPORT STATUS

Map showing locations of various spaceports across the United States, including California Spaceport, Vandenberg Air Force Base, Spaceport America, Mojave Air and Space Port, and others. The map also highlights federal facilities and proposed spaceports.

Sources: FAA and Map Resources. | GAO-17-88