Commercial Spaceports

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ICAO / UNOOSA Symposium
15–17 March 2016, Abu Dhabi, United Arab Emirates
Vertical Launch Vehicles
Horizontal Launch Vehicles

XCOR

Generation Orbit

Virgin Galactic

Swiss Space Systems

Reaction Engines

Vulcan

Orbital Sciences
Other Spaceport Users

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15 March 2016
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Commercial Vertical Launch Spaceports

**Licensed**
- Kodiak Launch Complex
- California Spaceport
- Mid Atlantic Regional Spaceport
- Space Florida Spaceport

**Proposed**
- Brownsville Texas
- Shiloh Launch Complex
- Georgia Spaceport
- Kennedy Space Center

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Commercial Horizontal Launch Spaceports

**Licensed**
- Mojave Air and Space Port
- Oklahoma Spaceport
- Spaceport America
- Cecil Spaceport
- Midland Spaceport
- Houston Spaceport

**Proposed**
- Hawaii Air and Space Port
- Titusville Spaceport
- Spaceport Colorado
- Shuttle Landing Facility
Network of Commercial Spaceports

**Horizontal**
- 6 Licensed
- 4 Proposed

**Vertical**
- 4 Licensed
- 4 Proposed

TOTAL: 18
International Commercial Spaceports
Commercial Spaceport Critical Elements

- Regulations – FAA Licensing
  - Launch & Reentry Licenses
  - Launch Site & Reentry Site Licenses

- Compatible Airspace
  - Flight Operations
  - Flight Safety & Risk Analysis
Commercial Spaceport Critical Elements

• Safe Ground Operations
  – Explosive Site Plans & Operating Areas
  – Emergency Response & Accident Investigation Plans

• Necessary Ground Infrastructure
  – Processing & Integration Facilities
  – Propellant Storage & Handling
THANK YOU

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