

THE BENEFITS OF COMMERCIAL SPACEPORTS

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Introduction

- Throughout the world, people have become increasingly dependent on NASA-developed technology for:
 - Communication
 - Imaging
 - Exploration

Introduction

- This dependence has placed a heavy demand on federally-owned launch facilities which can be:
 - geographically prohibitive.
 - bound by federal infrastructure.
 - heavily scheduled.
 - expensive.

Introduction

- This presentation will discuss the economic benefits of commercial spaceports as well as:
 - licensing requirements.
 - technology needs.
 - economic needs.
 - current progress in establishing a network of commercial spaceports, including Oklahoma.

The Current Launch Process

- For a private company to schedule a launch, they must:
 - locate a launch facility.
 - Currently, only four licensed space launch facilities exist.
 - fit into the facility's schedule.
 - As these facilities are all owned by the federal government, whose missions are fundamentally different from for-profit companies, finding an open launch time can prove difficult.
 - pay for the launch.
 - Space launches can cost upwards of \$500 million.

Commercial Spaceports as an Alternative

- Create a system of commercial spaceports to allow commercial launch facilities designed to meet the needs of for-profit companies.
- This system will drive down the costs of commercial launches by offering a specific service to a well-defined market.

Commercial Spaceports as an Alternative (continued)

- Launch cost
 - As commercial spaceports they will operate on a smaller (and less expensive) scale.
 - Newer facilities utilize newer technology, thus driving down the costs of operation.
 - In many states considering commercial spaceports (specifically, Oklahoma) the cost should be significantly less.

The Foundations of Commercial Spaceport Planning

- Over the last few years, fifteen states have begun the process of establishing commercial spaceports.
- Several of these states, including Oklahoma are inland states.
- Representatives from these states have worked closely with one another to share ideas and goals.

The Foundations of Commercial Spaceport Planning in Oklahoma

- Founded by visionary legislation in 1999.
 - OK SB720 (known as “the space bill”) founded the agency.
 - Bill drafted by a team of state legislators.
- Assigned a three-fold mission: To establish a spaceport in the state of Oklahoma; to diligently attract aerospace commerce to our state; and to increase educational aerospace opportunities.
- Overseen by a seven-member board of directors, appointed by the governor.

The Foundations of Commercial Spaceport Planning in Oklahoma

- The proposed spaceport is located on a Cold-War era military base.
- Currently, the facility has a variety of resources that make it a natural spaceport
- Premiere Facility

Premiere Facility

- 2,700 acres of inland property dedicated to the aerospace industry.
- Existing manufacturing facility on the Spaceport.
- 168 square-mile Spaceport Territory for further construction.
- 13,500 foot runway.
- More than 300 VMC flying days per year.
- On-site medical facility with pharmacy and a crash and rescue unit.

Spaceport Oklahoma



Third Largest Runway in North America with 93 Acres of Concrete Ramp



Oklahoma Spaceport Control Tower with Office Space



Existing Manufacturing Facility

- 56,000 square-foot facility with adjacent rail and loading dock.



Five On-Site Bunkers



Crash and Rescue Unit



30,000 Square-Foot Maintenance and Paint Hangar



Licensing a Spaceport

- The licensing process is in-depth and lengthy, with requirements such as:
 - An Environmental Impact Statement:
 - Currently, Oklahoma is well within the EIS process and is planning on wrapping up the study in December,
 - A Safety Study
 - Oklahoma is researching the safety study method at this time. This study will begin in the near future.

Needs Assessment for Commercial Spaceports

- Technology Needs
 - For an inland spaceport to be successful, a Reusable Launch Vehicle is required.
 - Several programs have encouraged the progress of this technology, including:
 - the X-Prize Foundation
 - NASA's Space Launch Initiative
 - Since February 1, the need for new technology has become an even greater priority.

Needs Assessment for Commercial Spaceports

- Economic Needs
 - Technology is not cheap.
 - While many states are trudging forward, cost is still a major concern.
 - An EIS, alone, costs roughly a half-million-dollars.
 - An RLV will cost millions to build.

Needs Assessment for Commercial Spaceports

- Economic Needs (continued)
 - In order to build a strong network of commercial spaceports, the federal government must make funding a priority.
 - Space transportation (and commercial launches) must be seen by the general public as a reality.
 - States must have economic incentives for establishing spaceports.

Needs Assessment for Commercial Spaceports

- Economic Needs (continued)
 - Oklahoma's Space Tax Credit:
 - This tax credit provides a major tax credit to one aerospace company that meets a specific criteria, set forth by state legislators.
 - Currently, several companies are vying for this credit.

Future Goals and Plans for the Oklahoma Spaceport

- To establish a fourth component of Oklahoma's economic foundation which is currently comprised of agriculture, oil/gas and aviation.
 - This can be done by bringing in new companies that would expand the state's tax base.
 - Giving Oklahoma graduates a high-tech industry where they may find jobs close to home.

Future Goals and Plans for the Oklahoma Spaceport

- To provide the aerospace industry with a cost-effective, full-service site for...
 - Launches
 - Manufacturing
 - Research and Development
- To be a pioneer in the establishment of a network US spaceports that would, in turn, make space transportation a reality.

In Conclusion:

- Commercial spaceports are an economically advantageous alternative to the current commercial launch system.
- Although the potential for great success is evident, progress needs to be made in funding and technology for spaceports to be fully beneficial.

The Spaceport of the Future

