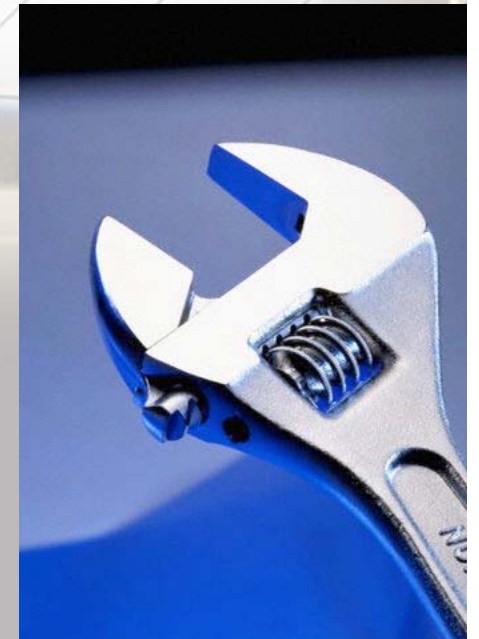


Space Investment Summit

Tuesday, April 17, 2007

Private Investment in Space: Where Did We Go Wrong?

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National Railroad Program?

- A “National Railroad Program” in the 1870s would have been doomed to failure.
- Private companies built the railroads.
- Federal government played key roles:
 - Regulated
 - Subsidized
 - Protected
 - Purchased services
 - Guaranteed property rights



National Aviation Program?

- Government did not build the planes...
- It contracted to be the largest purchaser.
 - Equipment (planes)
 - Services (airmail, etc.)
- Built infrastructure (airports).
- Regulated for safety and national security.
- NACA focused on fundamental research.



1960s Vision of Space

- Pan Am would run the spaceliners, Hilton would run the hotels, and Ma Bell would run the pay phones.
- Like previous sectors, government would be largest customer.
- Instead, we got “The Space Program.”
- *What went wrong?*



“Space Race” with the Soviets

- Space became an arena to display national greatness.
- Astronauts as heroes, not as entrepreneurs.
- NASA as operator, not as customer.
- Apollo gave us the concept of a “moon shot” instead of incremental progress.
- Cost-plus, cost-be-damned mentality.



Space Access Costs

- Current rates: Putting an object in orbit costs twice its weight in gold.
- It's hard to build a factory with \$10,000 wrenches and \$3 million commutes!
- Need a 100x reduction in launch costs, or *nothing else matters.*

