

**Written Testimony of
Jon B. Kutler
Chief Executive Officer and Founder of
Quarterdeck Investment Partners, LLC
For the
Subcommittee on Science, Technology, and Space
United States Senate Committee on Commerce, Science, and Transportation
and
Subcommittee on Space and Aeronautics
United States House of Representatives Committee on Science
July 24, 2003**

Chairman Brownback, Chairman Rohrabacher and members of the subcommittees, thank you for inviting me to testify this morning. My name is Jon B. Kutler and I am the Chief Executive Officer and Founder of Quarterdeck Investment Partners, LLC, an investment bank focused exclusively on the aerospace and defense industries. Today, it is my pleasure to discuss what we see as the major issues facing the commercial human space flight industry as its pioneering companies progress to the point of seeking external financing from the capital markets.

I must start by applauding the efforts of the individuals who have spoken before me. They are the kind of leaders and risk takers who have traditionally pushed this country to new heights of technological advancement and created whole new industries and jobs. It is appropriate that we sit here today in the centennial year of celebration of the Wright Brothers' successful completion of the first manned powered flight, to discuss the transition of manned space travel from a government pursuit to an economic business opportunity. The only question the Wright Brothers faced as they started their tests was "can we?". They did not have investors questioning their return on investment or a federal regulator asking to certify the aircraft. The question before these gentlemen today, however, has become "will we be allowed?".

The most important people to answer that question are not scientists pushing the bounds of technology. They are regulators here in Washington, D.C. who set a framework for these efforts and institutional investors who will judge whether this industry is ready to be a profitable business opportunity worthy of large-scale investment. I am sure that most regulators and investors believe that at some point in the future there will be a prosperous commercial human space flight industry. The foundation of this discussion, however, remains whether the transition from novelty to viable industry will be observed in our lifetime.

To the surprise of many, the sheer size of the capital required to fund commercial human space flight is not the issue. There are numerous examples of new companies in fields such as biotechnology and telecommunications that have raised billions of dollars on the basis of someone's dream. The hurdle is the perceived risk profile and return on that investment. Some initial start-up capital has already been raised and will continue to be

available to these commercialization pioneers from wealthy “angel” investors who have the wherewithal to supplement their return on investment calculation with the passion that human space flight often evokes. The next critical junction will involve institutional funding, however, where the investment decision will be based solely upon quantifying the magnitude of return a company can potentially generate if successful, measured against the risks that could cause the endeavor to fall short of the finish line. The capital markets currently believe that this market will remain, in the near term, a niche opportunity with a number of substantial barriers limiting total demand thus delaying the timing of its growth. Although individually manageable, the combined belief of a limited market opportunity and potential regulatory obstacles currently results in an unattractive investment opportunity.

Biotechnology companies have raised billions of dollars from investors who are quite familiar with the concept of regulatory risk through the Federal Food and Drug Administration’s drug approval process. The pace of approval and ultimate outcome is a life and death decision, not only for patients, but investors as well. This process is a known and calculated investment risk, which *predates* the biotechnology industry. The commercial human space flight industry and its potential investors, however, face the prospect of unknown regulatory hurdles, which could entail “piggy-backing” off the FAA certification process for aircraft or the potential drafting of new restrictive regulations.

The question of potential market size has become the “Holy Grail” of early-stage investors. Typically, these venture investors will take large financial risks if they are confident that the return potential, should the funded idea/entity become successful, is proportional to the magnitude of risk taken. For example, although with the benefit of hindsight Microsoft’s success seems obvious, its early investors made large financial bets with little tangible assets to show for it. The Microsoft investment was a huge success in large part because once they had a successful product there existed an untapped and reoccurring global opportunity to sell affordable software for billions of customer applications. The current per event costs for commercial human space flight events are very high, which immediately eliminates a large segment of the population from participating. As you know, Mr. Tito’s orbital trip has been reported to cost \$20 million and near term sub-orbital trips are still projected to be several multiples of the average U.S. annual household income. While Rolls Royce and Ferrari also make luxury consumer items that have similar cost parameters, they can still be considered an investment -- a tangible, saleable asset -- not an expenditure on a onetime event. As you can imagine, investors in either of those car companies might question the capital expenditure plan for a new car line if they were told that a prospective customer would have the single ride of a lifetime, but subsequently have to throw away the vehicle.

Investors will also further factor the potential addressable market by an allowance for competition. This is not just a question of measuring the potential market share that could be captured if more than one company presenting today becomes fully operational. It is also an acknowledgement of competing tourism approaches. Many current commercial human space flight business plans are based upon the building blocks of an initial sub-orbital joyride approach. Without the unique characteristics of a longer stay

space tourism destination, other companies may be able to further fragment the market by offering specific aspects of space travel in a less technologically and financially demanding fashion. For example, weightlessness can be simulated for commercial customers through conventional aircraft in a manner similar to the training regimen for all astronauts. Owners of demilitarized Russian aircraft could meet the demands of those seeking the g-forces of launch and the thrill of supersonic flight.

In order to attract investment capital into a risky, new industry in its relative infancy, the business plan should have the potential for a large financial return, be differentiated in the marketplace and based on credible demand patterns. The most likely scenario for this may ultimately rest in the build-out of a “destination” travel model. By offering an overnight stay in space or turning a Mach ten flight from a quick joyride to a reliable transportation system that features global travel measured in minutes instead of hours and days, the time-tested demand for destination travel could be leveraged effectively and a much larger investment opportunity created.

Despite the rapid appreciation of stock market indices in the past quarter, the capital markets still remain reasonably disciplined with respect to calibrating the risks of such early-stage investments. Assuming we were still at the height of last decade’s investment bubble, these financial metrics might have been pushed aside by merely the “story” of commercial space travel. Unfortunately, companies seeking investment in the commercial human space flight sector not only have to deal with a more disciplined financing market, they also must address the disastrous results of investments made by such investors not that long ago based upon the dreams of other commercial space start-up ventures. In the mid to late 1990s, companies poised to develop and address the low earth orbit (“LEO”) satellite market successfully raised billions of dollars of capital by extrapolating for investors the rapid growth of bandwidth usage and cell phone development. Their business plans implied that nearly the whole world would, in the near future, be utilizing the services provided by the winners of this race. Since then, more than \$14.5 billion in debt and equity capital has disappeared as a result of the industry’s collapse and subsequent corporate sufferings of Iridium, Teledesic, Globalstar and ICO. Today, only two of the four companies remain; limping along in attempt to stay alive until the market catches up with their business plan. Following the Microsoft example, the return potential and market opportunity presented to those LEO investors was substantially different than the business cases currently provided by commercial human space flight ventures. While the longer term opportunity may very well be larger, the current opportunity for which the capital is being raised is perceived as much more of a niche.

In addition to the aforementioned investment history, which has not yet been forgotten, there other risks remain that institutional investors will consider. In the case of the LEO satellites, many of the individual satellites that were intended to build out these constellations did not reach orbit or even deploy successfully. This potential outcome was factored into business plans and considered a business risk, as well as an insurance issue. Should one space tourist not safely return during the initial stage of developing the commercial human space flight market, the industry would likely shutdown for years. It

will also take some time to erase the recent image of the shuttle Columbia from the minds of potential investors and tourists, and restore confidence in the safety of human space flight. Of course this will also be coupled with the risks of litigation and insurance costs that will be present in the early days of this market, regardless of the obvious use of legal disclaimers. These risks and uncertainties that face the commercial human space flight industry can constrain the near term investment prospects and delay the fruition of these pioneers' vision, until reasonably quantified.

What the commercial human space flight community needs is time: (i) time for Wall Street to forget earlier failed commercial space investments and change its risk profile; (ii) time to get the space shuttle fleet flying again in a safe and reliable manner; and (iii) time for certain new technologies to mature. I expect all three of the aforementioned to happen. Time, however, is often the unfortunate enemy of many investments and investment ideas. There are a number of actions the government can take to buy some of that time should it chose to:

- First, the Hippocratic adage, “do no harm” can provide a useful guideline in evaluating any proposed regulatory structure. Burdening the sector with either an inappropriate degree of regulatory control or the lack of early consensus in this area would kill the investment raising ability of otherwise fundable companies.
- Second, increased research and development funding in certain key technologies could have the “dual use” benefit of supporting NASA and Defense Department missions while shortening the lifecycle of longer term human space business opportunities with broader market appeal. Over time, this could include developments such as the transition of sub-orbital joyrides to hypersonic single-stage-to-orbit vehicles serving as high-speed commercial transports.
- Lastly, start-up ventures can leverage the stability of mutually beneficial government contracts such as those afforded to the space based remote sensing sector, into further external funding.

Although not insurmountable, the near term institutional investor interest given to the commercial human space flight sector will be limited by a number of risks and constraints that could adversely affect investment return. In order for start-up companies to participate in the natural transition from the small pools of capital available through wealthy individuals to the investor base required to fund their next level of growth, the regulatory and financial risks associated with these ventures must be further quantified. While these ventures may spark the imagination of many, to quote *The Right Stuff*, “No bucks, no Buck Rogers”.

BIOGRAPHY

Jon B. Kutler, Chairman, Chief Executive Officer and Founder

Jon B. Kutler is Chairman and Chief Executive Officer of Quarterdeck Investment Partners, LLC, an investment banking firm he founded in 1992 to focus exclusively on the aerospace and defense sector. Mr. Kutler has advised on hundreds of transactions involving most of the leading companies in these sectors. In December 2002, he sold the firm to Jefferies & Company, Inc., a NYSE traded investment bank. Quarterdeck currently operates in five offices globally as a wholly-owned subsidiary of Jefferies & Company.

Mr. Kutler began his investment banking career on Wall Street in 1984, after serving ten years in various positions in the U.S. Navy. He has worked with Goldman Sachs, The First Boston Corporation and was Managing Director in charge of the West Coast office and international aerospace and defense practice of Wasserstein, Perella & Co., an international merchant banking firm.

Mr. Kutler is a nationally recognized expert in the field of aerospace and defense. His articles on consolidation, restructuring and defense conversion have appeared in *Business Week*, *The New York Times*, *Fortune*, *The Los Angeles Times*, *Defense News*, *Washington Technology and Aviation Week & Space Technology*. Mr. Kutler has testified before numerous Congressional committees, has served as Chairman of the White House Small Business Task Force on Defense Conversion and was a member of an advisory panel established by the Congressional Office of Technology Assessment to evaluate the status of the space launch vehicle industry.

Mr. Kutler is a graduate of the United States Naval Academy and holds a bachelor of science degree in Naval architecture. He received his master's of business administration degree from Harvard University.