Executive Comment

Space Commercialization

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The concept of space commercialization has certainly be around for some time, but events during 2004 have triggered new direction and new support for private space enterprises both in the corporate world and in the U.S. Congress. Indications of a new stage of interest and activity can be seen from the following:

- **The Ansari X-Prize:** Not only did the Paul Allen and Burt Rutan (Scaled Composites) team successful fly twice into space in late 2004, but Sir Richard Branson (of Virgin Atlantic) has indicated that his company will explore the use of the technology employed in the SpaceOne vehicle to commercialize space flight. Another three to four serious teams from Canada and the U.S. were well on their way to develop creditable new launch systems to go into near earth space to claim the X-Prize and their efforts continue.
- **Bigelow Aerospace Initiatives:** American billionaire Robert Bigelow of Las Vegas, Nevada has embarked on several important initiatives. These include negotiated agreements with NASA to use inflatable "SpaceHab" technology and has contracted with SpaceX for a launch to test the viability of a private space station. There are several other groups including one in Houston, Texas that are also exploring private space platform concepts
- **Wide Range of Private Space Initiatives:** There are now dozens of "space commercialization projects" underway. These range from near term projects such as Space Adventures Ltd. that allow passengers to pay $2700 to experience over 30 seconds of weightlessness in parabolic arc flights to very long term initiatives such as exploring the design and building of a "space elevator" to geosynchronous orbit. The number of initiatives has expanded exponentially since the flight of SpaceOne in 2004.

Institutional Change

Well-established groups such as the AIAA, the Space Foundation, and the Washington Space Business Roundtable plus the new International Association of Space Entrepreneurs (with some 1000 members just in the U.S.) www.spaceentrepreneurs.org

all have now held programs addressing the “hows”, the “whys”, and “wherefores” of space commercialization. From the institutional perspective, the U.S. Congress has passed new “space commercialization” legislation now signed into U.S. law in December 2004. This legislation formally assigns responsibility to the U.S. Federal Aviation Administration (FAA) to oversee the commercialization of space and to license private launch system initiatives, high altitude platform systems, etc. These trends will undoubtedly spread around the world and affect the future scope and direction of space agencies around the world.

This will increasingly mean that NASA, under the new Space Vision as defined by President George W. Bush, will concentrate on longer term projects to explore the Moon and Mars and undertake space science studies, but all shorter term projects and near-earth space programs will continue to transition to commercial initiatives. This signals a new era in U.S. space programs at almost every level: (i) It means that the relation between NASA, the U.S. Department of Defense, the U.S. Department of Commerce and the FAA will need to be redefined and improved at both a formal and working level. (ii) It means that NASA will need to re-establish the relevance of what it does in terms of obtaining on-going support from the U.S. Congress and additional new funding to complete the International Space Station and complete the development of the new Crew Exploration Vehicle; and (iii) It also means that international cooperative issues, international legal issues, and even international safety issues may arise as serious commercial space projects go forward. The formation of the new International Association for the Advancement of Space Safety (IAASS) that will hold its first Conference in Nice, France October 25-27, 2005 may help to establish “international rules of the road” with regard to space safety standards for private space ventures.

The way forward in space commercialization is this point unclear and uncertain, but it will most certainly be interesting.