

NewSpace 2008

The extent to which satellite activities have become a self-sustaining and often profitable industry is one of the great successes of private enterprise. What once was the sole province of national agencies and international organizations is now dominated by a multi-billion dollar commercial market. Is human spaceflight next to go private? A movement known as NewSpace believes the answer is yes and commercial activity is about to take its place next to government in areas of human space transportation, logistics and planetary exploration, and perhaps profitably so. Some have even put their money where their mouth is and started their own NewSpace ventures. What should investors think about this?

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The **NewSpace 2008** conference, held by the Space Frontier Foundation in Crystal City, Virginia from July 18th to the 20th, sought to explore this question while bringing together many entrepreneurs, investors and advocates. Many NewSpace ventures were represented at the conference, each of various levels of maturity. Among those making their appearance included **Orbital Outfitters** - a collaboration to produce spacesuits for private spaceflight and extreme environments; **Odyssey Moon** - a Google Lunar X-Prize contender; and **XCOR Aerospace** - the prominent rocket propulsion and space tourist outfit. All put on a brave face on very challenging endeavors.

NewSpace business, investment and entrepreneurship were hot topics of the Friday discussion sessions. Morning topics were focused on the growing maturity of entrepreneurial space ventures as well as on opportunities for NewSpace investors.

In the session entitled "A NewSpace Exit Strategy", a small group of angel investors and venture capitalists spoke about their experience with investing in space-related ventures and about potential exit strategies for NewSpace. Many agreed that the inexperience, riskiness and high cost of the industry had made most investments daunting and that acquisition, not IPO, is the most likely fate of even the most successful NewSpace startups. Technology spin-off to a larger firm was an often-used yet not often mentioned exit in this industry. Marco Rubin of Exoventure Associates, however, soberly reminded the panel that bankruptcy was also a very real exit.

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Government money, a constant feature in big aerospace firms, was given an ambivalent assessment for startups and growth companies. Rubin described it as easy but addictive money that can stunt growth. Andrew Nelson, COO of XCOR Aerospace and formerly of the Boston Harbour Angels cautioned entrepreneurs to “avoid the cost-plus world”. Shubber Ali of George Group, however, saw the value of using some government incentives and investments as a good road to growth. On the other end of the spectrum, “friends and family” money, the traditional seed of most startup ventures, was viewed as important and useful motivator, even for high cost aerospace activities.

The role of the government in creating a prosperous environment for NewSpace was discussed at length. COTS, NASA’s program to encourage a commercial resupply option for the International Space Stations, was applauded for its approach to commercial cooperation but concern lingered about the ability of the program to adequately fund crew transport options. Also high in attendees’ attention was relaxing the overly restrictive ITAR export control regime, the consolidation and maturation of space-related law and regulation, as well as growing excitement for government-sponsored prizes, such as the NASA-sponsored Centennial Challenges, and innovative commercial partnerships as a motivator for innovation.

A keynote address by Alan Stern, former Associate Administrator of NASA’s Science Mission Directorate and now with Odyssey Moon, highlighted some of the problems with civil space agencies and a possible way forward for commercial spaceflight. At the top of his observations was the remark that NASA is inherently constrained by the “averaging function of 535 legislators” and that major advances in space development takes big pioneers, not big governments. Stern noted that most existing commercial space operations moved “bits, not atoms”, a phenomenon caused essentially by the difficulty of moving anything other than massless information. This is now changing, as private enterprise is now pursuing the ‘killer app’ of suborbital space travel, which has the potential of reaching a market of thousands of adventure seekers.

Perhaps no one expressed both the hope and concerns of NewSpace better than Rich Pournelle, Director of Business Development at XCOR Aerospace, with an overview of recent bubbles in the financial markets, their shared characteristics and



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their possible relevance to NewSpace. In particular, the dotcom bubble, the US housing bubble and the most recent green/clean energy bubble all underwent phases of greed (growth, investment and expansion) and fear (uncertainty, risk and contraction). Does NewSpace have the same potential for expansion as these aforementioned bubbles? Certainly fear and uncertainty with private aerospace efforts are present in copious quantities. If there are great growth opportunities, then we are indeed in the early days, still awaiting a 'Netscape moment', when the investment community awakens to vast off-world growth possibilities. Still, possibilities are many and whole new markets are bound to be found.

It can never be said that building a business, any business, is easy. Entrepreneurs risk their time, energy, reputation and sometimes their family and friends to make their goals a reality. This may be even more true in a field wracked with technical difficulty, high costs, regulatory barriers, giant competitors and investor skittishness. Regardless of the maturity of commercial human spaceflight and of the NewSpace movement, we tip our hats to the brave and intrepid souls who work towards to making these new markets a reality.

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