

POINT OF VIEW:

Published: Sep 02, 2008 12:30 AM

Modified: Sep 02, 2008 01:23 AM

Up, up and away, Triangle

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CHAPEL HILL - With a presidential election and the economy front and center, does space exploration matter?

It's a fair question whether Barack Obama or John McCain would consider space exploration to be among their top priorities for their first hundred days in office -- unless it becomes a national security issue.

Otherwise, during economic slowdowns and tight federal budgets, much of Congress and the voting public find insufficient value in space. But what if human space activity weren't just about exploration or national security, two issues for which political support rises and falls?

Put another way, what if the value equation were different -- and economically sustainable?

I've written on this page before about the emerging entrepreneurial space industry, or NewSpace. I mentioned companies such as Bigelow Aerospace, Virgin Galactic and Space Exploration Technologies, leaders in an industry that includes XCOR Aerospace, Armadillo Aerospace, Blue Origin, AirLaunch, Masten Space Systems, Space Adventures, Zero-Gravity Corp., the Rocket Racing League and many more. One company, Space Development LLC, has a subsidiary (StarSys) in Durham.

Although these small companies are building hardware that would be useful for space exploration, they must attend to a very down-to-Earth goal shared by all companies: earn a profit and provide a return on the investment of "angel" investors, venture capitalists and eventually stockholders.

So while these companies see NASA-funded space exploration as one potential market, they understand other markets exist outside government space spending. One such market is -- you.

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WITHIN A FEW YEARS, PASSENGERS MAY FLY TO THE EDGE OF SPACE on Virgin Galactic's SpaceShipTwo for a fare of \$200,000. Its carrier aircraft, WhiteKnightTwo, was unveiled July 28. Those who can't afford that fare might have the option of flying to about 35 miles in altitude on XCOR Aerospace's Lynx for \$100,000.

Don't have that kind of spare change? Like other new products and services, these initial successes will lead to new companies, more competition and lower prices as technologies mature and vehicle development and operating costs decrease.

Passengers are just one form of space "cargo." These vehicles, and other being developed, will carry small satellites and other payloads for science, hardware testing, national defense and other purposes.

The key is treating space transportation the same way we treat terrestrial transportation -- vehicles are developed, owned and operated by competing companies. Governments provide the regulatory framework, conduct basic technology research and development and become a

consumer of the resulting products and services.

If such transportation seems too wild to be possible, imagine telling a cotton farmer 100 years ago that his crop would be shipped to China, manufactured into a shirt and then shipped back to his hometown and sold in a local store.

Efficient, reliable, economically viable, safe, commercial transportation is the reason such a scenario is commonplace today. As NewSpace companies extend aviation to higher and higher altitudes, transportation-enabled scenarios that seem too fanciful today will become commonplace.

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HOW MIGHT THIS UNFOLD IN THE TRIANGLE and elsewhere in North Carolina? Here is one potential scenario:

2010 Research Triangle Park opens the corporate/academic NewSpace Technologies Institute

2011 Honda Aircraft Company (Greensboro) begins designing suborbital spacecraft

2012 N.C. State University, an affiliate of the International Space University in Strasbourg, France, opens a permanent local ISU campus

2012 Virgin Galactic begins East Coast suborbital flights in North Carolina

2013 Durham's GE Transportation-Aircraft Engines facility begins manufacturing engines for small commercial hybrid air/space vehicles

2015 Fort Bragg/Pope Air Force Base inaugurates suborbital space flight deployment

2016 DHL begins trans-Atlantic suborbital cargo flights to and from Global TransPark

2018 NCSU, UNC-Chapel Hill and Duke University operate the world's first orbiting campus built with Bigelow Aerospace habitats

Imagine the jobs and economic development this can lead to in North Carolina. Does space exploration matter?

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