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Shooting for N.C.'s space potential

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CHAPEL HILL - Have you heard of the following companies? * Bigelow Aerospace is developing commercial space stations (Imagine the Triangle's universities forming a consortium to buy, own and operate one of these stations. In effect, they would have the world's first orbiting campus.).

* Space Exploration Technologies (SpaceX) manufactures launch vehicles and crew and cargo capsules for commercial delivery to orbital destinations.

* Virgin Galactic is the world's first commercial "spaceline."

These are just the most visible of the entrepreneurial firms leading the emerging commercial space industry, or NewSpace. While NASA struggles to field a space shuttle replacement and prepare for its moon and Mars missions, the NewSpace industry is quietly yet steadily becoming a key contributor to the overall U.S. economy.

New jobs and economic development await those who look beyond traditional civil and military aerospace and position themselves now to participate in the NewSpace industry. Consider these facts:

* Bigelow Aerospace and SpaceX have each spent about $100 million through 2007.

* Virgin Galactic will spend $250 million through its first flight in 2010.

* According to the Federal Aviation Administration study "The Economic Impact of Commercial Space Transportation on the U.S. Economy," the total impact generated by commercial space transportation and associated industries was $98 billion in 2004.

* There is a quantifiable correlation between the industries identified in the above FAA report and North Carolina's existing and emerging industry clusters.

According to the Council on Competitiveness' publication "Research Triangle: Clusters of Innovation Initiative," the Triangle can seize on under-realized potential by developing "... new opportunities at the intersection of clusters, including environmental sciences, biotechnology and information technology, telecommunications and medicine, and biotechnology and agribusiness."

All these clusters intersect with NewSpace.

Since 2004, I have been involved with various efforts to determine the investments North Carolina must make to benefit from the NewSpace industry, and I am encouraged by the interest that business and political leaders have expressed in this emerging economic development opportunity.

Equally important are the reactions I have encountered when giving presentations to students at N.C. State, Duke and UNC-Chapel Hill. While some would like to work at NASA, even more would prefer to work at NewSpace companies.

Want to motivate high school students to study the STEM (science, technology, engineering, math) disciplines? Show them how they might not only work for or start a company that builds orbiting hotels, research facilities and "gas" stations, but also that they might visit an orbiting campus when they are graduate students the next decade. And none of this depends on whether our next president supports NASA's human space exploration mission.

Indicative of the NewSpace potential for our state, last year the National Aerospace Development Center (NADC) selected North Carolina as one of only three states to receive its financial support and benefit from its work-force development expertise. Last March, NADC hired the Raleigh-based Advanced Vehicle Research Center to lead the development of North Carolina's Strategic Plan for Workforce Development in the Aviation and Aerospace Industries. Capital Area Research was hired to provide economic analysis.

Throughout history we have seen economies evolve through agrarian, industrial and information stages, where the businesses and technologies of each stage permeate the overall economy. And so it will happen as we progress to a space economy, where government space programs are a small part of multi-faceted commercially driven human space activity.

The work of the last four years has conclusively shown that North Carolina has a strong business and academic foundation to be a significant force in the space economy. But it isn't the only state with the necessary resources, and other states are already acting. If you think I'm referring to the traditional "space states" such as California, Florida and Texas, think again. I mean Hawaii, New Mexico, Oklahoma, Virginia and Wisconsin.

Is North Carolina doing enough to ensure its place?

(Jeff Krukin is a NewSpace business development consultant. Find out more at www.jeffkrukin.com)