



MEMORANDUM

Date: October 17, 2016

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator 

Re: **Additional Information Regarding the October 18th Addendum Item No. 9 - Vector Space Systems**

Attached is additional information related to the Vector Space Systems Economic Development incentive proposal on the Board's Addendum for October 18, 2016.

Attachment 1 is a brief biographical profile of each of the Principals at Vector Space. Attachment 2 is a timeline of key Vector Space activities. Attachment 3 is a comparison of the launch vehicles being produced and that would be manufactured at the Tucson Headquarters of Vector Space. Attachment 4 includes media reports regarding Vector Space from various technical magazines and journals, as well as an article from Arizona Daily Star and Vector Spaces' press release announcing the location of their manufacturing headquarters in Tucson at the County owned Aerospace, Defense and Technology Business and Research Park.

CHH/dr

Attachments

c: Dr. John Moffatt, Director, Economic Development

ATTACHMENT 1

Executive Bios:



Jim Cantrell **Co-founder and CEO**

Jim Cantrell is a well-known space entrepreneur, expert in small spacecraft systems and was on the founding team of SpaceX with Elon Musk, serving as SpaceX's first VP of Business Development. Jim has 30 years of experience in commercial space efforts including StratSpace, Skybox Imaging, and the privately developed Lightsail. Early in his career, Jim worked for the French Space Agency CNES in Toulouse, NASA/JPL and has helped grow more than 20 space start-ups to profitability and acquisition through StratSpace where

he was the Founder and CEO. Jim has been involved in the corporate development or financing of Silicon Valley's most notable space startups including Skybox, Planet Lab, Rocket Lab, World View, PlanetIQ and Orbital Insight.



John Garvey **Chief Technology Officer**

John Garvey is a 30-year space veteran who was also deeply involved with the founding team of SpaceX. John developed launch vehicles and launch operations for the McDonnell Douglas Delta III and Delta IV, the DCX-A single stage to orbit vehicle, Sea Launch and Micro launch vehicles for Garvey Spacecraft Corporation. John has extensive experience in the development of propulsion systems and launch vehicles and has worked with AFRL, DARPA, NASA and numerous commercial space enterprises such as COSMOS-1 the

world's first solar sail.



Shaun Coleman **SVP and General Manager Space Data Systems**

Shaun Coleman is a Vector Space board member and investor, and is spearheading the Galactic Sky division as Vice President and General Manager of Space Data Systems. As an experienced entrepreneur and investor, Shaun brings more than 20 years of enterprise software, virtualization, computer networking and information security expertise into the role, and will lead a team of developers in Silicon Valley who will build the next generation of software based space systems.



Ken Sunshine **COO/CFO**

Ken Sunshine is senior executive with extensive expertise in strategic planning, financial analysis, raising capital, operations and project management for technology companies, and has served as the CFO of Virgin Galactic and Moon Express as well as SVP Finance of Orbital Sciences. Ken has extensive capital markets experience including IPOs, private placements, asset-backed debt, M&A and joint ventures.

ATTACHMENT 2

SpaceX Founding Team Launches Vector Space Systems to Redefine Space Commerce
April 26, 2016

Vector Space Systems Completes Acquisition of Garvey Spacecraft Corporation to Enhance Micro Satellite Launch Capabilities
July 20, 2016

Vector Space Launches New Software Platform and Satellite Design Division to Enable Space Entrepreneurs
August 17, 2016

Vector Space Systems Completes Successful Test of Second Stage Engine in Advance of First Sub-Orbital Test Flight
May 19, 2016

Vector Space Systems Announces 21 Launch Agreement with Iceye
August 2, 2016

Vector Space Systems Awarded \$2.5M in NASA and DARPA Contracts
September 8, 2016

Vector Space Systems Successfully Completes First Sub-Orbital Launch
August 2, 2016



Vector Space
Innovate. Build. Fly

ATTACHMENT 3

comparison of vehicles

P-20



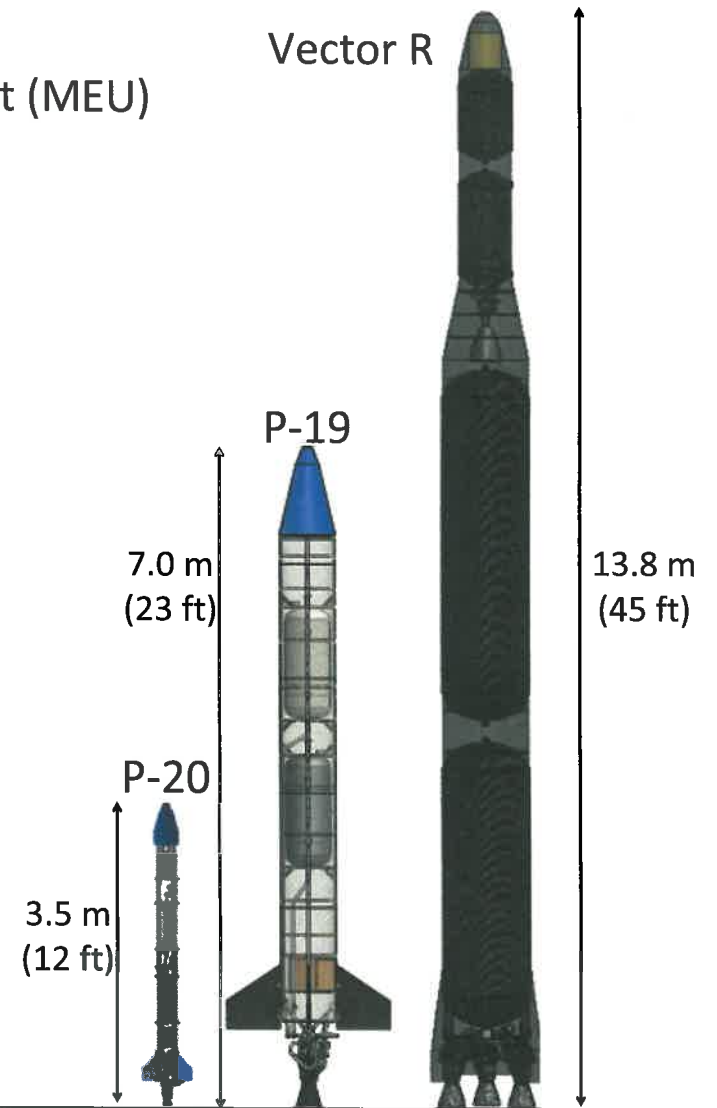
P-19



Full-scale
Mechanical Engineering Unit (MEU)



Vector R



ATTACHMENT 4

Via Satellite

Vector Space Systems Lays Out Big Plans for Tiny Rockets

Via Satellite – August 15, 2016

By: Juliet Van Wagenen

Vector Space Systems, a new micro satellite launch company, is betting big on little rockets. The company successfully tested its P-20 prototype launch vehicle, a sub-scale test vehicle for its 42-foot Vector 1 rocket, which measured just 12 feet in length, in the Mojave Desert on June 30. When built, the company says the launch vehicle will be capable of putting a 50 kg payload into Low-Earth Orbit (LEO) — placing the rocket’s capabilities right at the feet of the growing SmallSat market.

With its full-scale vehicle based on designs from **Garvey Spacecraft**, which Vector Space Systems acquired last month, the company aims to move to orbital launches in 2018 with the first of 21 launches for its first customer **Iceye**, a Finland-based company in the process of [developing a commercial Synthetic Aperture Radar \(SAR\)](#) satellite constellation. While Iceye is currently the only contracted customer, Vector Space Systems CEO Jim Cantrell told *Via Satellite* that the company is in negotiations with customers for more than 50 potential launches.

“With the Iceye contract, we will still have a lot of capacity left for other launches because they will fly out over a number of years. It’s kind of an ideal contract for us because it gives us a nice long flightline and gives us time to build up our flight rates and still service other customers,” Cantrell said.

And it’s likely that the market will continue to grow. Projections indicate more than 400 nano/microsatellites will need launches annually in the year 2022 and beyond, according to **SpaceWorks Enterprises** 2016 nanosatellite and microsatellite market assessment released earlier this year. The market is expected to see 13 percent growth per year over the next six years, between 2016 and 2022, according to the company.

Vector Space Systems is comprised of industry veterans from **SpaceX, Virgin Galactic, McDonnell Douglas** and **Sea Launch** who see a growing demand in the small satellite sector for access to more frequent and affordable launches.

“One of the fundamental things that we think the launch community needs is the ability to get a flight within six months rather than within two years,” said Cantrell.

For now, the company’s entry-level launch is set at \$1.5 million and the company is working on arrangements that will allow customers to rideshare their microsatellites.

“We’ll be exactly cost competitive with rideshare opportunities,” said Cantrell. “If you look at it from a cost-per-kilogram basis we’re competitive with the larger vehicles, like Virgin, **Firefly** and **Rocket Lab**.”

Cantrell contributes the low cost per launch to Vector’s ability to mass manufacture the launch vehicles, which will partly be made of 3-D printed engine parts. Moreover, the company is looking to lower the cost of launch further by implementing a reusable first stage on its launch vehicles.

“We’re looking at an aero recovery technique that will come in a few years down the road. That will reduce our costs even further because the first stage turned out to be the most expensive part of the vehicle, so it makes sense to bring it back,” said Cantrell, who pointed to the possibility of deploying a parachute on the first stage and recovering it via helicopter.

Cantrell also points to the engine’s electric upper stage that runs on the unique propellant combination of liquid oxygen and densified propylene. He believes that with heavier payloads, the electric upper stage ultimately enables the company to deliver the most cost savings.

“If you had a 50 kg payload and you needed to get it to 800 kilometers, that is where our real cost competitiveness starts to come in,” said Cantrell. “Because of the electric upper stage flattening out the curves, for a couple million dollars you can put this relatively large satellite into a fairly high altitude because there is no penalty with the electric propulsion.”

And with a launch vehicle catering specifically to SmallSat customers, Cantrell points to other weight-saving and convenience strategies.

“Our satellites fly naked,” said Cantrell, noting that microsats typically have to fly inside containers so that if something does happen they don’t threaten the primary payload. “In this case, they are the primary payload. Without those containers not only are you saving the mass — which can be substantial, in terms of micro satellites it can be almost as much as the satellite itself weighs so, in effect, it is doubling the mass-to-orbit with that kind of formula — but it also allows for configuration growth on the standard 3U and 6U platforms, which have a lot of parts available.”

This means that when companies design satellites, they can have more leeway in regards to systems that previously had to fit comfortably inside of the container, such as solar panels or antennas.

Cantrell said customers could also see the benefit of not having to share the launch vehicle in terms of scheduling and deployment.

“It doesn’t matter if they are launching a single satellite or six microsats, they like the idea of owning the entire shroud. Not only are they owning where they go and when they go, it’s just

small things like when there are changes. The changes process is much simpler than if you're on a multiple ride manifest," he said.

There are some challenges ahead for Vector Space Systems however, the most pressing of which is access to ranges.

"We have to get the flight tests going, we have to get the engines qualified, we have a new fuel that's patented that seems to work fine. Right now we have nothing that seems to stand in our way except for funding and access to ranges," said Cantrell. Vector is looking to gradually increase its flights out of each range to about 50 a year, or roughly once a week. He noted that the company is in discussions with **Alaska Aerospace Corporation's** Pacific Spaceport Complex-Alaska (PSCA), formerly known as Kodiak Launch Complex, and with **NASA** for access to launch at Cape Canaveral, Florida.

"We're designing the vehicles so we can get in and out of the ranges very quickly and, potentially, if the launch conditions are correct, launch multiple a day," he said.

Vector is also looking to expand beyond the launch sector and is primed to announce a new business unit that will take on the space segment, Cantrell said.

"For the bottom end of the scale, micro, the key features are high-performance, low dollars, and quick turnaround, so once you enable those things, it allows people to think beyond the launch into how people will begin using this infrastructure, and that's what we're looking at next," said Cantrell.

QUARTZ

The next big thing in space business is tiny rockets

Quartz – August 6, 2016

By: Tim Fernholz

Back in June, NASA [tested a booster](#) for the most powerful rocket it has ever tried to build, the Space Launch System (SLS). The booster alone was more than 150 feet long, producing 3.6 million pounds of force, and reaching temperatures of nearly 6,000°F during a ground test in Promontory, Utah. The whole rocket is so expensive it will probably only fly twice in the next four years, if at all.

A month later, in the Mojave Desert, [a very different test took place](#), involving a prototype rocket just 12 feet long. Built by a small company called Vector Space, it flew just a few thousand feet in the air, successfully demonstrating 3-D printed engine parts that will plug into a full-scale version just 42 feet long, not even a third of the size of one of SLS booster.

If its designers are right, the Vector 1, as the small rocket is called, will fly hundreds of times before the SLS becomes operational, making the company a bundle along the way.

The buzz in the space business isn't always about bigger rockets and farther journeys. Today, it's about downright small rockets, practically bespoke, and designed to go [just a few hundred or thousand miles](#).

Just a little lift

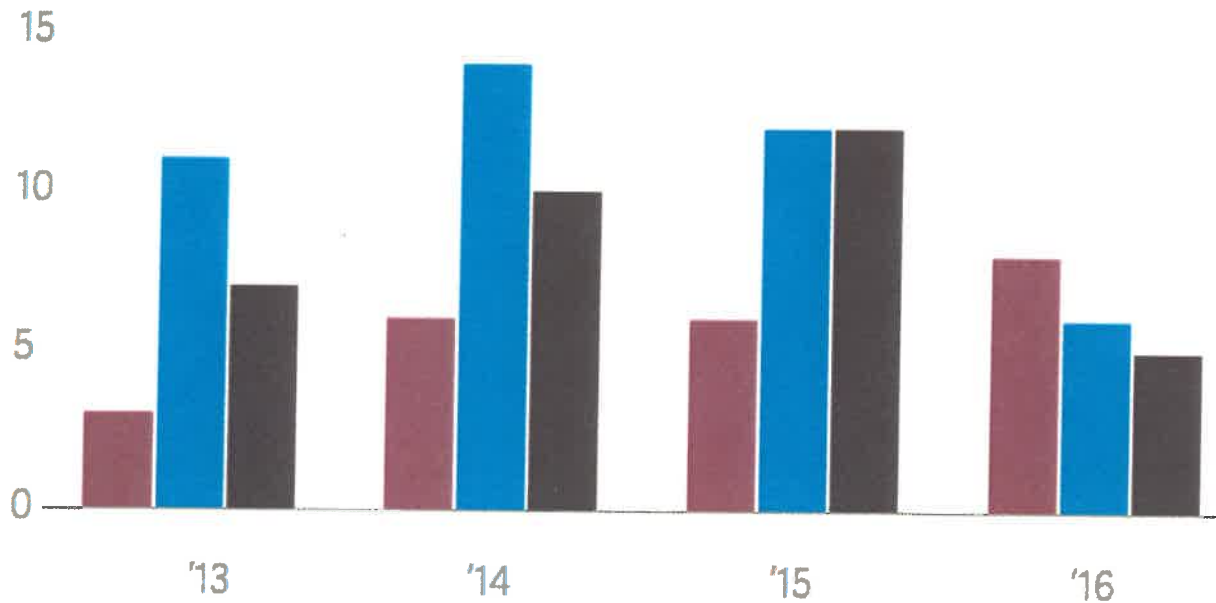
Entrepreneurs are excited about small satellites for the same reason you may be excited about Pokemon Go: Engineers can now cram a huge amount of processing and sensing ability into an electronics component that barely weighs anything, letting you do fun things (catch Pokemon, snap satellite pictures) very cheaply in places you could not before (sidewalks across America, low-Earth orbit).

Advances like these make it possible to do more with smaller satellites, a key savings in a business where installing your infrastructure costs—at a minimum—thousands of dollars per kilogram. Numerous companies already have sprung up, among them Spire, Planet, Urthecast, Planetary Resources, and BlackSky Global, promising a brisk business for launching small satellites, which could be used for purposes ranging from photography to communications to tracking.

Instead of dozens of small satellites launched annually, analysts are now forecasting hundreds of small satellites heading to orbit each year. The next question is how to get them up there. Most of the time, small satellites are launched in groups by the big space-access providers, like Arianespace or ULA, but it's tough finding room on one of their launches, especially when each company may fly just a dozen missions in a year.

Number of successful missions per year

■ SpaceX ■ ULA ■ Arianespace



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It's also a logistical hassle. Booking a launch requires wait times that are often longer than a year, as well as customizing your satellite to the rocket you're riding on, and often ends with your mission taking a backseat to whatever the primary cargo is. There's no real way to conceive of a small satellite, build it, and launch it in just a few months, which makes rapid testing and deployment in the spirit of Silicon Valley nearly impossible.

"We are already seeing traffic jams for a launch at the national ranges," Virgin Galactic executive Will Pomerantz says. "You want to fly on date X, so does NASA, and so does the Air Force; you can imagine where a small entrepreneurial company would fall on the pecking order."

You can see where this is going: What if small satellites had commensurately small rockets to take them quickly into orbit, the space equivalent of sending a UPS truck across town instead of an enormous container ship?

Necessity is the mother

“Nobody is paying attention to those guys—they’re still treated like toys, like second-class citizens, they don’t have a reliable way to get to orbit,” Jim Cantrell says of small satellite companies.

Cantrell is a founder of Vector Space, the company behind the Mojave Desert test. He and co-founder John Garvey are both veterans of the space business; they played a role in helping Elon Musk set up SpaceX when the company’s early staff was being recruited in those same Mojave test grounds.



Musk’s vision for disrupting space is slightly different: SpaceX is beating established rocketry firms at the lucrative work of launching enormous satellites into orbit, especially geo-stationary orbits 37,000 kilometers up, where satellites can hang over one spot on Earth. SpaceX’s next rocket, the Falcon Heavy, will be enormous (though not quite as big as SLS) and designed to take big cargo into space very efficiently.

“Geo-stationary orbit is actually real estate—you can only put so many satellites up there,” Cantrell says. “It’s like waterfront property at the beach. Everyone builds the biggest thing they

can put up there. Chasing that market, putting everybody out of that business, that's how Elon is going to fund his way to Mars. It's kind of a brilliant strategy."

But that's not Cantrell's business. He and Garvey are focused on the opportunity they see in a world where companies are building businesses around satellites that weigh less than 100 lbs. "I'm going to dominate the small side," Cantrell promises. He expects to orbital tests to start next year, and operations to commence in 2018.

A crowded field

Vector Space is hardly the only company to aim for this market. There at least a half-dozen hoping to be the first to provide regular service to small satellite operators.

Rocket Labs, a San Francisco/New Zealand effort, has developed a [new kind of electronic rocket motor](#) and is already signing on clients to fly as soon as 2017, though it has yet to fully flight-test its rocket. Firefly also [is developing a rocket](#), and expects by 2018 to launch satellites weighing less than 1,000 kg.

Then there are the companies developing plans to launch small rockets from planes, like Paul Allen's Vulcan Aerospace. Vulcan is in the early stages of figuring out how to use an aircraft called the Stratolaunch, with the largest wingspan ever built, for the job.

And Richard Branson's Virgin Galactic is in the process of hardware-testing a rocket system it hopes is two years away from launching satellites on a 60-foot (18-meter) rocket slung under the belly of a 747.



“Even if you are only at an altitude of 35,000 feet, you’re already above 90% of the atmosphere, not swimming your way through a thick soup of atmosphere at the start of a mission,” Pomerantz says.

Another answer for the smallest satellites is the company NanoRacks, which in 2014 installed a special port on the International Space Station to launch cubesats carried aloft during regular cargo delivery missions to the station, where astronauts can then deploy the satellites. So far, they have launched more than 100.

There’s one big threat to the small-rocket business

The incumbent rocket companies flying the big cargo missions aren’t ignoring the market trends. And they all have operational rockets in an industry where bringing a functioning product to market rarely happens on schedule.

SpaceX’s obsession with reusability has it convinced it will drive competitors with smaller rockets out of business. It has also forced its competitors to think more about lowering launch costs and using every inch of their rockets efficiently. United Launch Alliance, the joint venture of Boeing and Lockheed Martin that performs most US space launches, has developed a “cubesat” carrier (designed for small, cube-shaped satellites) that can attach to its Atlas rocket; and it plans to deploy it widely.

“Every Atlas launch vehicle would have one of these carriers on the back end and provide the total current equivalent of the world’s cubesat rides to space, in one to three years,” ULA CEO Tory Bruno told Quartz.

“I think there is going to be greater and greater utility in smaller and smaller satellites,” Bruno added, describing a scenario in which low-Earth orbit “becomes the app store of space, [offering] all sorts of economic activities there, things we haven’t even thought about today.”

Bet on the little guy

If the large rocket companies think their quest for lower pricing will eventually crowd out smaller competitors, the new companies are equally bullish that the incumbents can’t match their service and flexibility in a world of cheap access to space.

“In many ways, the market for satellites has been so constrained by launch costs for so long, if that diminishes, it’s going to increase our demand,” Virgin Galactic’s Pomerantz says, forecasting an expanded array of rocket needs.

If cheap access to space is really going to bring about a surge of new economic activity there, it will likely take multiple, easy-to-use platforms for commercial access—because the industry will be serving a range of customers, and because individual customers will have a range of needs.

A key client for Virgin, OneWeb, [the space internet company](#), has [an ambitious efforts underway](#) to launch hundreds of satellites weighing 125 kilograms apiece to deliver broadband internet to Earth. OneWeb can launch perhaps 35 or 40 of its satellites on a large rocket, whereas Virgin Galactic could only launch two at a time. But even if most satellites are launched in bulk, small rockets can be used for a lot of other purposes—replacing individual satellites if they fail, testing new generations of satellites, or putting a few satellites in a unique orbit to eliminate empty coverage areas, for example.

“We’ve designed our capability to be able to go into space for any rocket that will provide it,” says Chris Lewicki, the CEO of Planetary Resources, a company developing the technology to mine asteroids and a likely customer for the small-scale players. “In the normal shipping market, FedEx or UPS or DHL, they all have their different advantages.”

And it will take that kind of ease of use to make Earth-orbit the kind of entrepreneurial playground that these starry-eyed Silicon Valley voyagers are looking for.



Entrepreneur seeks to build rockets in Tucson to lift tiny satellites

Arizona Daily Star – April 26, 2016

By: Tom Beal

Space entrepreneur **Jim Cantrell** is planning to build small rockets in Tucson that will launch micro satellites into orbit at a fraction of the cost involved in full-scale launches.

Cantrell is CEO of newly formed Vector Space Systems, which announced Tuesday that it has secured “angel investment” of \$1 million to continue building and testing prototype rockets already being developed by Garvey Spacecraft Corp., which is a partner in the new venture.

Cantrell, who has run a space investment and consulting business called StratSpace from Tucson since 2008, said the 35-foot-tall rockets will be manufactured here and launched from Cape Canaveral, Florida, California and Alaska. The rockets will carry lightweight satellites into low-Earth orbit, from 200 to 800 miles up, Cantrell said.

A growing market for imaging, communications and scientific inquiry could lead to 100 launches a year for the company, Cantrell said, and a “multibillion-dollar” space business headquartered in Tucson.

“There has been a dramatic increase in the number of (micro) satellite launches,” said **Jim Bell**, president of the Planetary Society and a professor at Arizona State University’s School of Earth and Space Exploration. “Hundreds have been launched into low-Earth orbit.”

At ASU, a CubeSat program that builds lightweight instruments for delivery into space has “three or four in the works, with launches planned in the next couple years,” Bell said. Bell said the nonprofit Planetary Society has also launched a CubeSat to deploy an experimental, photon-powered “light sail.”

A successful test of a light sail in January will be followed by a launch into low-Earth orbit sometime this year.

Bell is director of ASU’s NewSpace Initiative, which was created to form partnerships between private space companies and the School of Earth and Space Exploration.

Without commenting directly on Vector Enterprises’ potential, Bell said launch companies will be needed to accommodate the growing need for small satellites to do imaging, remote-sensing and communications. “There aren’t any dedicated launchers for them,” Bell said.

Cantrell said his company will concentrate its business on satellites from 1 to 50 kilograms (2.2 to 110 pounds), which make up about 75 percent of the market.

An analysis done by SpaceWorks Enterprises of Atlanta predicts the launch of 3,000 micro satellites in that size range by 2022.

The SpaceWorks report notes that a number of companies are developing launch systems for nano-satellites. A recent article in Aviation Week identified a dozen of them, including Virgin Galactic and SpaceX.

Cantrell, who was the vice president for business development at SpaceX in its early days, said Vector aims to provide low-cost launches on a regular basis.

Cantrell said the company is testing now at a facility near Mojave, California, and will make its first orbital test in 2018. "We expect to be operational within two years," he said.

The \$1 million raised recently at the Silicon Valley Space 2.0 gathering is the first of three fundraising rounds, he said. Ultimately, about \$50 million will be needed to start the company, he said.

Cantrell has worked for the French Space Agency and NASA. His consulting firm has been involved in a number of space startups, including Planet Labs, Skybox Imaging and Tucson-based World View, which has a contract with Pima County to lease a \$15 million manufacturing building and spaceport capable of launching the company's high-altitude balloons.

Vector's other founders — **John Garvey**, **Ken Sunshine** and **Eric Besnard** — have decades of experience in space programs, including with NASA, McDonnell Douglas and Virgin Galactic. Cantrell said Vector has no plans to launch missiles in Tucson, but will build them here. The county's planned tech park, near the Tucson International Airport and Raytheon Missile Systems, is a possibility.

"We're not necessarily planning to follow World View's path," he said, "but we have to put our factory somewhere, and we'd be open to being out there."



Vector Space Systems Opens Manufacturing Facility in Pima County Aerospace, Defense and Technology Business & Research Park

New facility supports Vector's expansion, dedication to furthering space industry footprint in Southern Arizona

TUCSON, AZ., October 13, 2016 – Vector Space Systems, a micro satellite space launch company comprised of new-space industry veterans from SpaceX, Virgin Galactic, McDonnell Douglas and Sea Launch, today announced that it is locating its manufacturing facility to the Pima County Aerospace, Defense and Technology Business & Research Park. Pima County and the Arizona Commerce Authority are leading the facility development through a public-private partnership agreement to further the economic advancement of the Arizona technology and aerospace industry.

“With cutting edge companies like Vector Space Systems continuing to locate in Arizona, it is no wonder our state is ranked number one for aerospace manufacturing attractiveness by PwC,” said Arizona Governor Doug Ducey. “Vector Space Systems is precisely the type of innovative, 21st century company we are working to attract to Arizona through our pro-business policies, and an excellent addition to southern Arizona’s already thriving aerospace industry. I thank Vector Space Systems for its commitment to and confidence in our state.”

Vector’s decision to locate its launch vehicle factory in Arizona and place it in Pima County’s Aerospace, Defense and Technology Business & Research Park emphasizes its belief in the bright future of Southern Arizona’s aerospace manufacturing industry. The partnership between the County, State and Vector will bring together the spirit of innovation and entrepreneurship in an effort to make Arizona one of the fastest growing technology hubs in the nation.

“Vector Space Systems has decided to make Tucson the home for its headquarters and manufacturing facilities by relocating to the Pima County Aerospace, Defense and Technology Business & Research Park,” said Jim Cantrell, CEO and founder of Vector Space Systems.

“While Vector’s eyes are focused on the stars, our home is in Arizona because we believe in its potential as a competitive tech hub, and we’re honored to have the opportunity to contribute toward its economic development in the aerospace manufacturing industry.”

Vector, a disruptive company that connects space startups and innovators with affordable and reliable space access, officially launched in 2016 to build launch vehicles for micro satellites. The company, whose vision is to reshape the multi-billion launch market, combines dedicated low-cost micro satellite launches (Vector Launch) and software defined satellites (Galactic Sky) to dramatically increase access and speed to orbit. Vector will use the Pima County Aerospace, Defense and Technology Business & Research Park to manufacture its Vector-R and Vector-H launch vehicles that will be transported to sites in Alaska and Florida to launch micro-satellites into orbit.

“With this announcement, Vector Space Systems becomes the second tenant of the County’s Aerospace, Defense and Technology Business & Research Park in the Sonoran Corridor, joining World View,” said Chuck Huckelberry, Pima County’s administrator. “These locally grown aerospace companies are locating to an area acquired by the County in its effort to protect Raytheon Missile Systems from residential encroachment. Raytheon has welcomed these fellow aerospace manufacturers and these three companies combined are creating a gravitational pull of other aerospace companies interested in locating to the park. I congratulate Vector Space Systems on its expansion and expect they’ll be seeing a few new neighbors in the near future.”

“Helping our local businesses grow and prosper is as important to the County’s economic and job growth as attracting new companies in town, if not more so,” said Sharon Bronson, chair of the Pima County Board of Supervisors. “Our country has embarked on an exciting new era of commercial space flight, and I am immensely proud that Pima County is able to assist an imaginative local company like Vector Space Systems, which is in the vanguard of this new race to space.”

“The Arizona Technology Council applauds Pima County, the City of Tucson and Arizona Commerce Authority for this extraordinary opportunity for our region and state,” said Alex Rodriguez, vice president of the Arizona Technology Council. “The space technology industry is

well underway in Arizona, and we believe Vector Space Systems is a powerful example of what is possible in Arizona regarding the technology and innovation agenda.”

About Vector Space Systems

Founded by the original SpaceX founding team, Vector Space Systems is a disruptive company that connects space startups and innovators with affordable and reliable launch enabling platforms and vehicles at a price never before possible for accessing space. For more information, visit www.vectorspacesystems.com.

About Pima County

Covering an area of approximately 9,200 square miles, Pima County is one of the oldest continuously inhabited areas of the United States. Pima County government serves a population of just over one million residents who thrive in an ecologically and culturally diverse region. Pima County’s Economic Development Office believes companies want to grow in communities that have excellent quality of life and that make investments in critical infrastructure that are the foundation for commerce. The Pima County Board of Supervisors enthusiastically supports new businesses and business expansion in Pima County.

About the Arizona Commerce Authority

The Arizona Commerce Authority (ACA) is the state’s leading economic development organization with a streamlined mission to grow and strengthen Arizona’s economy. The ACA uses a three-pronged approach to advance the overall economy: recruit, grow, create – *recruit* out-of-state companies to expand their operations in Arizona; work with existing companies to *grow* their business in Arizona and beyond; and partner with entrepreneurs and companies large and small to *create* new jobs and businesses in targeted industries. Visit azcommerce.com for more information.

About Arizona Technology Council

The Arizona Technology Council is Arizona’s premier trade association for science and technology companies. Recognized as having a diverse professional business community, Council members work towards furthering the advancement of technology in Arizona through leadership, education, legislation and social action. The Arizona Technology Council offers numerous events, educational forums and business conferences that bring together leaders,

managers, employees and visionaries to make an impact on the technology industry. These interactions contribute to the Council's culture of growing member businesses and transforming technology in Arizona. To become a member or to learn more about the Arizona Technology Council, please visit www.aztechcouncil.org.

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