BBN Brevard Business News

Vol. 37 No. 36 September 9, 2019 $1.00 A Weekly Space Coast Business Magazine with Publishing Roots in America since 1839

Former astronaut Allen has Aerodyne reaching new heights; on 'Inc.' list

By Ken Datzman

CAPE CANAVERAL — Andrew "Andy" Allen, a former astronaut who flew in space three times in the 1990s and was a U.S. Marine Corps aviator with Top Gun credentials, has had the type of career that most people would see as straight out of dreamsville, filled with the kind of excitement that only a small number of people will ever experience.

Having a seat aboard a space shuttle, for example, and the opportunity to take in the stunning views of the Milky Way — the galaxy that contains our solar system — is not a purchased ticket.

Allen has had some scary episodes, too, during a 20–year career in the Marine Corps. Ten of those years he was assigned to NASA.

One day as a Marine Corps pilot, Allen defied odds and was able to safely land an F–4 Phantom jet after an unusual incident left him with vision only in one eye, a blood–splattered face, a crushed voice box, a popped shoulder, a non–functioning ejection seat and an aircraft with a damaged engine and no hydraulics. The cockpit window of the jet he was flying was shattered, and many pieces of glass cut into his face, causing severe bleeding.

Lesson learned: Always be quick and continue moving forward doing the things you are trained to do. Don't panic. This and other nerves–of–steel leadership experiences during his years in the military and with NASA have served him well in business as an entrepreneur.

Allen is the CEO and owner of high–flying Aerodyne Industries LLC, which is reaching new heights with operations in 10 states and 475 employees, including more than 100 team members at NASA's Kennedy Space Center.

That total Aerodyne workforce number is up from one individual — himself.

Aerodyne is a small–business success story that really began in 2011, though the company paperwork was filed in 2006 in Clearwater. At the time, Allen was an executive at Honeywell in Clearwater, working with colleague and friend Lee Williams. They ran large business units and programs for Honeywell. That company was planning to offer Allen a new job in Phoenix.

"But I had this itch to see what a small business might be like," which put Allen on an entrepreneurial path.

"Getting it started was probably the most humbling experience I have ever had," said Allen, in an interview conducted at his company's headquarters on North Atlantic Avenue.

Aerodyne is an engineering services company catering to government agencies, including the Department of Defense, the Missile Defense Agency, and NASA's Johnson Space Center in Houston, Texas, and its Marshall Space Flight Center in Huntsville, Ala.

Allen got the break he needed when his company formed a mentor–protégé agreement with Jacobs Engineering, which at the time was looking to win a sizable contract at Kennedy Space Center and turned to him for help. "That mentor–protégé relationship probably took us from employee No. 1 to employee No. 8. It really

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BBN photo — Adrienne B. Roth

Andy Allen is the CEO and owner of Aerodyne Industries headquartered in Cape Canaveral. His firm is ranked 2415 on the 2019 "Inc." 5000 list of the fastest–growing private companies in America. Aerodyne posted a three–year growth rate of 165 percent, above the median three–year growth rate of 157 percent for all companies on the list. Aerodyne employs about 475 people and has operations in 10 states. Allen is a former astronaut who flew in space three times in the 1990s. He served in the U.S. Marine Corps and earned Top Gun credentials.

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vintage military aircraft, such as a P–51 Mustang, which was used during World War II. "These are the airplanes that motivated me, especially as a youngster seeing them on television. Getting the opportunity to fly in a P–51 was a phenomenal experience. You hear the noise of the engine, and smell the hydraulic fluid and fuel," he said.

● THE CALL TO BECOME AN ASTRONAUT

Allen was in NASA's 1987 class of 15 astronauts, which was the first group after the Challenger accident. The class included Bruce Melnick, a longtime Brevard County resident who was an executive with The Boeing Co. before retiring. Of the 1987 class, seven were pilots and eight were mission specialists. For each class, between 9,000 and 10,000 people apply to become astronauts. Out of the thousands who apply, 120 candidates are interviewed by NASA.

"If you are in the military, you go through the military boards, so there is an extra step in the process," he said. When Allen applied to be an astronaut, the Marine Corps board received roughly 1,500 applications from qualified Marines. The board recommended 21 Marines, one of whom was Allen. He was at test pilot school at Patuxent River, Md. Then NASA picked six of the 21 applicants to be interviewed. The interview was a week–long process.

One morning, Allen had just returned from flying. "The incoming NASA calls had already started. There was a lot of buzz going on at test pilot school — who was in, who was out. We had a community phone at the base. So when I got the message to call Johnson Space Center — NASA's selection office — I walked about a half–mile to an abandoned hangar that had a pay phone so I could be all by myself. I had gotten a bunch of quarters. I dialed the number. The chief of the board then was George Abbey. If you talked to George, that meant you were selected to be an astronaut. If you talked to one of the other board members, of which there were about 15, you were going to hear, 'Thank you for applying. You did really good, but you were not selected at this time.' Only George would talk to the selectees."

When Allen called the selection office at Johnson Space Center, a woman in administration told him to stand by. "Then a voice comes on the other end. He said hello. 'Who is this?' I said this is Andy Allen. I said, 'Who's this?' He didn't answer me, but said 'how's the weather up there in Maryland.' He talked a little while. Finally, he came around and said you applied for a job with the astronaut office. I told you at the time that Marines made good gate guards, but we weren't sure that we would be able to get you in the office. But I am here to tell you, if you want to come in the office and be an astronaut, that would be great. I was excited. Abbey had called. I was selected to be an astronaut."

On July 20, 1969, Allen, a Pennsylvania native, watched the Moon Landing with his mother, the late Loretta Allen. "I was sitting in the family room of our home with my mother watching it on a black–and–white television. My father was in the Navy. We moved around a lot, but settled in Philadelphia. For a young kid, the Moon Landing was great to see. My mother asked me if I thought I would be interested in going into space someday. I told her I would love to do something like that, but I don't think astronauts have ever had school detention. She told me if I shaped up and worked hard, it might happen."

Allen said the hardest thing about being an astronaut is saying goodbye to your family before a scheduled launch. Astronauts are quarantined a week before their liftoff and youngsters under age 16 cannot visit, as NASA is cautious about exposing the crew to any viruses, such as the common cold.

"So it's tough to say goodbye to your kids. When you are in quarantine, everything is finalized. The lawyers come in and make sure your will and testament are updated. You're given a recorder and a camera. They give you writing paper. You can make a recording or write a letter, just in case you don't come back."

Allen was the pilot on STS–46 in 1992 and STS–62 in 1994, and was mission commander on STS–75 in 1996.

STS–46 was an eight–day mission aboard Space Shuttle Atlantis which featured the deployment of the European Retrievable Carrier, a European Space Agency–sponsored free–flying science platform, and demonstrated the Tethered Satellite System (TSS), a joint project between NASA and the Italian Space Agency.

STS–62 was a 14–day mission aboard Space Shuttle Columbia and consisted of five crew members who conducted a broad range of science and technology experiments with Earth applications, including materials processing, biotechnology, and environmental monitoring.

STS–75 was a 16–day mission with principal payloads being the reflight of the TSS and the third flight of the United States Microgravity Payloads. The TSS successfully demonstrated the ability of Tethers to produce electricity.

"It's cool stuff being up in space. I really liked looking out to the stars because you can see more stars than you can imagine. Every square inch of sky is filled with stars. It's hard to find the Constellations because they are so obliterated by other stars. You can see a lot more than the Milky Way galaxy and the width of the Milky Way and the depth of the Milky Way. There are 300 billion to 400 billion stars in our galaxy, and then another two, three, or four billion galaxies are out there in this giant thing called the universe. It really makes you feel kind of insignificant."

One of the veteran astronauts told Allen before his first flight in space to enjoy the ride and experience. "As you are going through 150,000 feet, for that split second at least look outside," he told me. "That's right when the atmosphere goes from blue to black. Very memorable."

He added, "After the main–engine cutoff, you bring your seat up all the way and look over. You will see the tip of the external tank. You can watch it and feel it blow off, which is a monumental event for your first space flight."

Allen said the best feeling as an astronaut is "wheel stop," when you land and you're home. In–between, there are a lot of great memories. A lot of thrills, chills, scary things, and happy things — looking at the planet, looking at the Milky Way galaxy, talking to your kids from space. We get to have a little videoconference with them. The kids bring you back to reality. It doesn't matter who you are or what you do in life, kids bring you back to reality."

Science from the space shuttle missions has helped mankind on Earth in many different ways. If you need help getting out of a crashed car, for example, space shuttle–derived technology may save your life. Rescue squads have an extraction tool to help remove accident victims from wrecked vehicles. The handheld device requires no auxiliary power systems or cumbersome hoses and is 70 percent cheaper than the previous rescue equipment, according to NASA.

The cutter uses a miniature version of the explosive charges that separate devices on the space shuttle.

NASA has a long history of transferring technology to the private sector. The Technology Transfer Program was formally established in 1964 by NASA. Nearly 2,000 products and services are the result of NASA–derived technology. The products include everything from CAT scanners to invisible braces, scratch–resistant lenses, cordless tools, and satellite television.

NASA research provides return–on–investment dollars as well as enlightenment on Earth. One government study estimates that every dollar spent on NASA returns $10 to the economy.

"NASA's spending on research and development is what space is about, and there is a return on it. Through history, empires have succeeded and failed based upon the technologies they had. The great empires have all come and gone," Allen said.

He added, "To me, going to the moon and going to Mars, there are benefits I think we really don't understand and can't even comprehend what they might be. We might find precious minerals and materials on the moon. So, as a business guy, I believe making investments in NASA R&D and Department of Defense R&D are some of the best investments we can make. It brings an opportunity to enrich this country and society as a whole."

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kicked in toward the end of 2012 and 2013. So Jacobs (a prime contractor with more than 2,400 employees) kick–started our business. We had a good mentor–protégé arrangement with them for three years, then we made some other deals with Jacobs."

And Aerodyne has since been growing and growing. In the last 12 months, for example, it has added more than 150 people to its payrolls.

The firm is ranked 2415 on the 2019 "Inc." 5000 list of the fastest–growing private companies in America. The list was just released by that magazine. Aerodyne posted revenue of $44.3 million in 2018 and has a three–year growth rate of 165 percent.

The 5,000 companies represent 49 states, Puerto Rico, and the District of Columbia. Combined, they generated $237.7 billion in revenue last year, according to Inc. The median three–year growth rate of the companies was 157.4 percent.

Through the years, some of the companies that made the "Inc." list include Microsoft, Timberland, Intuit, Oracle, Chobani, Patagonia, and Oracle.

The most exciting thing is, from a business perspective, the best is perhaps yet to come for Aerodyne. "We are going to put out some big stretch goals and see where we go," said Allen, who earned his bachelor's degree in mechanical engineering from Villanova University and has MBA degree from the University of Florida. "I think 2020 will be a good year for our company and 2021 will even be a better year. The plan is to keep on growing."

Allen and Williams have been able to apply some of their big–company skills to the small–business world. Williams ran Honeywell's Space Business and was vice president of that corporation's industrial operations in Europe.

"Part of me thinks it's a little bit of a unique strategy. Some people in this industry start out small and their company never really has a major prime contractor role. We have been part of major prime roles with a lot of subcontractors — Fortune 100 and Fortune 500 companies," said Allen.

He added, "Now we are applying some of that big–company experience to our small business, and it's helping us quite a bit. I believe it's really helped us strategize. It helps us decide what is important and not so important."

Aerodyne was selected as Kennedy Space Center's Small Business Subcontractor of the Year for 2017 by the KSC Small Business Awards Program. Aerodyne was honored for its support on the Test and Operations Support Contract. Jacobs Engineering is the prime contractor.

Aerodyne's seasoned executive team includes Carl McManus, the chief financial officer, and Williams — who retired from Honeywell — the chief operating officer.

"We have the big–company experience without the big–company bureaucracy," said McManus. "We are very nimble and quick as a firm."

The Aerodyne leadership team has fostered an uplifting company culture, creating a positive, motivating work environment for all employees across the enterprise. And motivated employees drive customer satisfaction for a business.

"I'm fortunate enough to be in my 40th year at Kennedy Space Center, and all my previous experience throughout the Space Shuttle program was with large companies," said John Janokaitis, who today is chief of media relations for Aerodyne.

"When the shuttle program ended and we transitioned to the Test and Operations Support Contract in March 2013, I, like everyone else, was wondering, who is Aerodyne? But I quickly found out that Andy and our COO, Lee Williams, had developed a culture that was genuinely concerned about the welfare of each of their employees — they truly care about our well–being. They constantly ask, 'Is there anything else we can do for our employees'? That really speaks to the success of Aerodyne. We each feel like we have a vested interest in the company and want it to succeed," said Janokaitis.

Aerodyne is a Service–Disabled Veteran–Owned Small Business. The name Aerodyne was created by Andy Allen's father, the late Dr. Charles Allen, an electrical engineer, in 1968.

Dr. Allen was a Naval officer and Aerodyne "was a solo moonlighting job helping him support five children. He did everything from flight instruction to engineering consulting to logistics," said his son.

Dr. Allen served in World War II and participated in the largest amphibious invasion and the last major campaign of the Pacific War — the Battle of Okinawa. He flew a TBM Avenger torpedo bomber in the Battle of Okinawa in 1945.

An annual scholarship in his honor is awarded to students of Aerodyne employees who excel in science, technology, engineering, and mathematics programs. It may be more than one scholarship awarded annually depending on the pool of applicants.

Allen said his company has been able to digest strong growth because it has the right systems in place. "Some companies grow so fast they can't handle it. Often, it turns out to be fatal for them. But we are well prepared to handle growth because we have built a solid foundation — our accounting systems and our HR systems are great. I believe our HR processes are as good as any I have seen in any company I have been associated with, including large enterprises."

Aerodyne invested in the same types of systems that large aerospace companies use. "Very early, when we had about 100 employees, Andy and Lee (Williams) could see the value of going ahead and purchasing these scalable systems," said McManus. "It was visionary on their part. By having the systems we now have, we won't have to modify systems again in five years."

Aerodyne has a deep bench of professional talent and is particularly experiencing engineering growth at Johnson Space Center and Marshall Space Flight Center. "We have been seeing major growth in engineering at those locations. We have subject–matter experts in almost anything you can think of that is a science–related function, including astrophysicists and materials specialists, as well as mechanical engineers and electrical engineers," said Allen.

He continued, "One of the other fields we have gotten into with our Test and Operations Support Contract at KSC is information technology. We pretty much cover the whole spectrum of software, whether it's Help Desk, IT, software development for operating systems, or application software, we have expertise in all those areas. Our contract with the Missile Defense Agency is mostly on the software side of the house. That's classified work mainly in Colorado Springs, Colo."

Aerodyne is also doing work for the National Atmospheric and Oceanic Administration, a government entity.

Allen said bidding for contracts takes a lot of preparation "and in the services we are in — mostly government business — it's exceptionally competitive. And there is not a lot of profit margin from a percentage basis in the government services world, so we use a Walmart–like approach, which is taking lower margins to get high volume. You are not going to get high profit in government contracting. The government likes to look for the lowest cost, which makes it even more competitive."

With the surging growth his company has been experiencing, Aerodyne has come to the "fork in the road," as it relates to the classification of a small business bidding on government contracts. The U.S. Small Business Administration establishes size standards in an industry–by–industry basis. Presently, Aerodyne is close to straddling the line when it comes to the employee mark to still be considered a small business.

"The biggest decision we have to face in the not–too–distant future is whether we want to cross that small–business threshold and become a large company. Once you cross that line, you have to compete with the 'big boys.' A lot of small companies have crossed the line and have been successful, but there are probably more that haven't been successful. Some companies have gone over and come back. Once we make that decision, we are not looking back — it's a go."

● TOO CLOSE FOR PILOT COMFORT

During his military career, Allen logged more than 6,000 flight hours in more than 30 different aircraft. He was a Space Shuttle pilot and Mission Commander, too, logging more than 900 hours in space.

At Villanova University, Allen was a member of the Navy ROTC unit and received his commission in the Marine Corps in 1977.

Following graduation from flight school, he flew F–4 Phantoms from 1980 to 1983 at the Marine Corps Air Station in Beaufort, S.C. That's where Allen experienced a too–close–for–pilot comfort event in an F–4, with one other individual in the aircraft seated behind him.

Allen was on a low–level route "practicing flying under the radar." He was a couple hundred feet from the ground doing 500–plus knots (at least 575 mph) when a vulture struck his plane.

"It happened so fast. I had no room to see it or duck. For that split second in time, it was like a cannonball coming at me because of the speed. There wasn't much left of the glass. The plane had bullet–proof glass, but obviously it wasn't vulture–proof. I was busted up pretty good. I lost sight in one eye for a while because it was filled with blood. I had vulture bones all over my face, and I was bleeding a lot. Then you try to figure out if you are going to bleed to death, or if you will get your eyesight back. Do I eject or not eject? My ejection seat was broken, so that was off the table. Some of the parachutes were flapping down along the side of the plane. If the chutes open up, they are going to tear me in half. Should I disconnect my parachute? I wonder what the guy in the back seat is thinking. I couldn't talk because my voice box was crushed."

Allen said he instinctively slowed the plane down and began to climb, getting it away from the ground. "I tried to do all the right things. I was well trained. You tell yourself 'don't panic' — use your skills."

Allen, who said F–4s in general are difficult planes to fly — "unforgiving" — was able to land the aircraft. "The crash crew came out, pulled me out of the plane and took me to the hospital, where I was stitched up. It was quite an episode."

Soon, he was back flying. "One of the senior guys told me that I could fly when I wanted to, but if I don't fly soon, I may never fly again. You have to get over it. It was a bad event. So I got into a plane, strapped myself in, and went flying."

One of the highlights at test pilot school happens close to graduation day. The students get the opportunity to fly

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