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Innovation: Small Business, Big Ideas Issue Focus

Interview with Air Marshal Godfrey

Reflections on the Warfare Symposium: A Spacepower Perspective

SPACE FORCE ASSOCIATION
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A MESSAGE FROM OUR CEO

WILLIAM WOOLF

SPACE FORCE ASSOCIATION

Dear SFA Members, Guardians, and Corporate Partners,

Innovation has always been the driving force behind advancements in the space domain, and nowhere is this more evident than in the contributions of small businesses. Across the space industry, small and emerging companies are pioneering cutting-edge technologies, accelerating progress, and strengthening the foundation of U.S. spacepower.

At the Space Force Association, we recognize the critical role that small businesses play in shaping the future of space operations. These innovators are not only developing next-generation capabilities but also forging new pathways for collaboration between government, industry, and academia. Their agility, creativity, and willingness to push boundaries are essential to maintaining our nation's competitive edge in space.

That's why SFA remains committed to supporting and advocating for the small business community. Whether through our growing network, industry partnerships, or key initiatives like the Spacepower Conference, we aim to provide a platform for small businesses to showcase their expertise, connect with decision-makers, and drive meaningful change.

As we look ahead, fostering innovation within the small business sector will be a priority. By championing policies that empower these companies, facilitating engagement with the U.S. Space Force, and amplifying their contributions through initiatives like Spacepower Magazine, we are ensuring that innovation thrives at every level of the space enterprise.

Your continued engagement makes this possible. Whether you are an industry leader, a Guardian, or an entrepreneur, your support strengthens our collective mission and advances the future of U.S. spacepower. Thank you for being part of this vital effort.

Sincerely,
Bill

Bill
William Woolf
CEO & Executive President

IN THIS ISSUE

SPACE FORCE ASSOCIATION

LETTER FROM THE SPACEPOWER MAGAZINE GUEST EDITOR

DOLORES LOWE

The first science fiction book I ever read was *Have Space Suit—Will Travel* by Robert Heinlein. That story opened up a whole new universe for me. From there, I devoured nearly every Heinlein novel, followed by the works of other masters like Larry Niven's N-Space series and his collaborations with Jerry Pournelle. Somewhere along the way, space got into my blood—and it's never left.

Space, for me, has always represented the ultimate frontier—one where the spirit of exploration that has driven humanity for millennia is not only alive, but thriving.

In the book of Genesis, God instructs humanity to "be fruitful and multiply and fill the earth and govern it." In many ways, we've accomplished that. But I believe it's now time, as poetically captured by John Gillespie Magee Jr., to "slip the surly bonds of Earth and dance the skies on laughter-silvered wings." It's time to look beyond simply "Occupying Mars"—it's time to embrace the galaxy.

This issue of *Spacepower Magazine* shines a spotlight on the small business innovators who are helping turn those dreams into reality. These are the pioneers—visionaries whose ideas, passion, and perseverance are laying the groundwork for humanity's spacefaring future.

This edition is our small way of recognizing and thanking these often-unsung heroes. Their imagination, ingenuity, and commitment are what will ultimately carry us to the stars.

All the best,
Dolores Lowe
Spacepower Magazine Volunteer Guest Editor

SFA Feature Article:
Fueling Innovation from the Ground Up: How SPACE-SIM and the NSSC Empower Small Businesses

DOLORES LOWE,
SPACEPOWER MAGAZINE
VOLUNTEER GUEST EDITOR

In the evolving ecosystem of space operations, small businesses are not just participating—they're driving innovation. The National Spaceport Simulation Center (NSSC), home to the cutting-edge SPACE-SIM platform, is emerging as a catalyst for this momentum by offering unprecedented access, collaboration, and capability development for emerging players in the space industry.

Launched by the World Innovation Network (WIN) and supported by the Space Force Association (SFA), NSSC is the first physical embodiment of the U.S. Space Force's "Spaceport of the Future" vision. Designed as a centralized hub for collaboration between government, academia, and industry, it brings together problem-solvers and problem-havers in a shared, immersive environment. At the heart of this initiative is SPACE-SIM—a 42-foot wide, 10-foot tall immersive display and software integration nexus built directly on a spaceport runway. This physical proximity to launch operations enables real-time integration between physical assets and virtual environments.

For small businesses, SPACE-SIM is more than a simulation platform—it's a launchpad. Through integration with SFA's **SPACE-BASE Innovation Station accelerator** and **SpaceWERX's innovation pipeline**, small companies gain access to vital testbeds, training scenarios, and digital infrastructure that would otherwise be beyond reach. The center supports technology validation, collaborative development of operational standards, and shared training exercises—all vital for small businesses seeking to demonstrate mission relevance and scalability.

By partnering with all 12 winners of the DSOTF D2P2 SBIR awards, SPACE-SIM is also helping drive common operating environments and offering small innovators a clear pathway from prototype to mission deployment. Through technology showcases, pitch days, and industry events hosted by SFA, businesses are able to directly engage with key stakeholders across the Space Force, NASA, and commercial primes.

Additionally, academic institutions are welcomed as equal partners—facilitating research collaboration, workforce development, and access to Florida's globally recognized modeling and simulation community. These partnerships further enrich the ecosystem for small businesses by enabling agile prototyping, user feedback loops, and early-stage commercialization support.

As the Space Force looks to scale launch operations and standardize processes across global spaceports, the role of agile, innovative companies will only grow. Organizations like NSSC and initiatives like SPACE-SIM are laying the groundwork for small business success—not just as contributors, but as critical architects of the future space enterprise.

For small businesses seeking to break into the national security space market, the message is clear: the gate is open, and the path to orbit begins with simulation, collaboration, and shared innovation.


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Air Marshall Godfrey

Coalitions, Command, and the Future of Space: A Conversation with Air Marshal Paul Godfrey

SFA FEATURE INTERVIEW

BY MARTIN AMEN,
SFA FLORIDA PRESIDENT

The Space Warfighter Talk series brings together military leaders and experts to discuss the future of space operations, allied partnerships, and warfighting in the space domain. In this interview, Martin Amen, President of the Space Force Association Florida Chapter, interviews Air Marshal Paul Godfrey, Assistant Chief of Space Operations for Future Concepts and Partnerships, U.S. Space Force.

Air Marshal Godfrey's career spans decades in military aviation, coalition warfare, and space operations. As the inaugural commander of UK Space Command, he was pivotal in transforming space from a support domain to a warfighting domain. Now serving with U.S. Space Force, he focuses on integrating allied capabilities, strengthening NATO's role in space, and accelerating innovation in space warfighting.

In this discussion, Air Marshal Godfrey shares insights on:

- His transition from fighter pilot to space leader
- Lessons from coalition warfare and space command & control (C2)
- The evolution of space as a contested warfighting domain
- NATO's growing role in space operations
- Future threats, including jamming, cyber warfare, and anti-satellite (ASAT) attacks
- How to accelerate innovation, integrate AI, and build resilient space architectures
- Leadership, stress management, and advice for the next generation of Space Force Guardians

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With military and commercial space growing unprecedentedly, this conversation highlights how nations must collaborate to ensure space dominance in an era of increasing geopolitical competition.

Martin Amen (MA): You've flown fast jets, worked on the F-35 program, and operated in some high-stakes campaigns. What drew you to the space operations and leading the UK Space Command?

AM Godfrey: It's an interesting question. Certainly, one thing fighter pilots always struggle with is: what do you do when you land for the last time? I landed for the last time 29th of September 2017. I always say I'd rather be lucky than good, and I kind of fell into space. But when I say I'd rather be lucky than good, you do make your luck; so, after I'd done the carrier integration program with F-35, with the U.S. Marine Corps as well, I volunteered to be the CAOC director at the CAOC in Al Udeid. From a timing perspective, that put me in the right place to compete for UK Space Command. From a space perspective, that got me working with what was then called the DS-4, the Director of Space Forces in the CAOC. It also gave me a huge background in command and control, and again refreshed–I'd done an exchange with the U.S. previously—refreshed my command and control and embedded in the U.S. side of things. The week before I was leaving there after six months, I got a call from my commander—my boss back home, who said, "Do you fancy competing for the job as the inaugural commander of UK Space Command?" Then I found out a few weeks later I got the job, and we were off to the races. It has been just a whirlwind since then, and it's been amazing. So, back to my point about what does a fighter pilot do when you hang up your flying gloves for the last time? I'm so fortunate that I found space.

MA: You've flown Spitfires, Hurricanes. You've been in the Battle of Britain memorial fight. That had to be surreal, coming from some of that. What's it like to fly some of those aircraft? That's a jumping around from a big, big job question.

AM Godfrey: I come back to I'd rather be lucky than good. I joined the [Royal] Air Force because I grew up next to a Battle of Britain airfield called RAF Kenley. Cadets used to fly gliders there. So, in the early to mid-70s, you'd see gliders coming over the house the whole time. My dad used to build model aircraft, and so the ceiling of me and my brother's room used to look like dogfights from the Battle of Britain. So, I was kind of obsessed with this stuff. My parents tell me—it was 1978, there was an airshow at Kenley airfield, the Battle of Britain Memorial, they were flying a Spitfire and a Hurricane, I'd been fascinated by these airplanes since I was about six years old—apparently, I told them that that's what I want to do. So, you can imagine the luck, the timing, and everything that worked out. But when I flew over Kenley in a Hurricane for the first time with my parents there looking up 34 years later, I kind of closed the loop, having flown Harriers and F-16s and Typhoons in the meantime.

Battle of Britain Memorial Flight

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I've always joked that if I had crashed on that sortie, when you'd have dug me out of the ground, you'd have seen a big smile on my face. So, it was amazing. Flying a Spitfire and a Hurricane connected me to all the heroes I used to follow from the Battle of Britain. It is indescribable. But the biggest thing about that job was meeting so many veterans—not just pilots, but ground crew. The Women's Auxiliary Transport pilots were amazing. They'd deliver a Lancaster somewhere one day; get out of that, get into a Spitfire, transfer that. It was amazing. So, that's a time I will remember well, just ultimately fulfilling dreams from childhood, which was amazing.

MA: I retired out of Northrop Grumman. We did a lot of training using Air Force Distributed Mission Operations (DMO). We did a lot of air missions with coalition partners. It seems Space is aligning with some of this from the Air Force. You were the director of the 609th Air Operations Center in response to integrating space into the Middle East operations. What lessons from combat air power can you apply to the space environment?

AM Godfrey: The biggest thing I took out of that was the coalition aspect, operating in a coalition and how powerful that was. Funny enough, I'd been on my F-16 exchange in 2003 when Operation Iraqi Freedom started. So, to again go back to that AOR 17 years later, but to still see a coalition of the willing working together, that was probably the biggest thing for me: how we did that interoperability and the integration of all those coalition partners—just the benefit of that versus how difficult it is to keep a coalition together. I think there were around 17 nations in that coalition.

I think the second thing for me was about command and control. So, you've got this big coalition: how do you stitch this all together through a single command and control node? That to me, I learned, was kind of a six-month PhD in command and control. Certainly, from a space perspective, it is all about command and control because ultimately everything in the space domain is unmanned. Therefore, how do you command and control this? How do you get the signals up to those spacecrafts? How do you coordinate what you are doing in particular AORs? How do you coordinate the job of the component field commands? How do you coordinate for a combatant commander? What sort of space power do they need in their AOR? How do you coordinate with Space Command for the fight at 100 kilometers and above? I think all that sort of stuff, just understanding how the U.S. does command and control through combatant commands and components, is something that I'm fully involved in in my current role within the U.S. Space Force. It comes back to that coalition aspect of how you embed allies and partners across every area. So, I think it was awesome. Again, I said that I volunteered to go out there. Perfect timing. It was just fantastic schooling in that command and control and coalition warfare.

AM Godfrey with International Space and Defense Leaders

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MA: Earlier in my career, I was part of the evolution of the Wideband Global SATCOM (WGS) ground system and the start of Fighting SATCOM. Back then, space was seen as a benign, uncontested domain, and SATCOM was like a provisional capability. That's no longer the case. Leading U.K. Space Command, how did you help transition the military mindset to space support operations and warfighting?

AM Godfrey: This is one of the most crucial points for anyone standing up space commands around the world: firstly, the need to be able to do it. We were fortunate that a couple of things happened in 2019 where NATO declared space an operational domain. So that was fundamental to the thinking that this isn't just a benign environment. The second thing in the UK is that the Conservative Party had in their election manifesto in November 2019 that, if elected, they would form the UK's first space command because they were thinking about the benefits of space and the fact that the threat was growing in space as well. So, I wasn't starting from square one.

The difficulty is other senior military commanders in the other domains recognizing that space through ISR, PNT or SATCOM cannot be guaranteed if you can't protect and defend your assets in space. Certainly, from a UK perspective, we launched the first Skynet bird in 1969. We've had our own indigenous SATCOM for that long, and so my very first job was looking at how we protect and defend—how are we thinking about defending a satellite in space? It's easy to get that across among air-minded folks because it's essentially what's called high-value airborne asset protect. You've got a ring around it. You need threat information to understand. You need intelligence to understand. If someone is breaking that threat ring, is it because they're just drifting past? Is it because they've got nefarious potential? Are they up to no good? So, I talked about all these sorts of things, and you can see the light bulbs coming on in the audience: all right, I get this now. I get that potential adversaries up there are hugely increasing the threat in space, just like in any other domain. I always use the analogy that you wouldn't put an aircraft carrier into the Gulf region without a carrier strike group or a support group around it. That's exactly how we need to be thinking in space. The difficulty is that 95 to 99 percent of the general public don't understand the importance of space and the criticality of space in their day-to-day lives. Less so in the military, maybe 60, 65 percent don't understand the criticality of space. They're just used to pictures from space. They're used to PNT. They're used to SATCOM working. Our job was to tell them this could all disappear in the next war. How are we going to cope? Ukraine demonstrated right at the beginning how, through cyber-attacks and loss of comms, how critical that could be.

MA: In your new role from the Futures Concepts, partnerships, you integrate allied capabilities into the Space Force's strategic vision. How do you see NATO evolving in space? How do you see NATO's evolving role in space? I'll get this down.

AM Godfrey: We're concentrating on three areas now. One is about the international partnership strategy. Second is, not necessarily in priority order, but second is the Combined Space Operations (CSpO) initiative and the ten nations in there. The third one is NATO and support to NATO. Our first NATO engagement was supporting CSO when he spoke to the NATO military committee on October 31st last year. That was brilliant because he talked about space being a warfighting domain, and you could see the interest among the 32 national military reps in the room. In my last job, I dealt quite a lot with NATO as they developed their Space Center of Excellence, which is down in Toulouse in France, and working with Allied Command Transformation down in Norfolk, Virginia, because they're the planners. They've got a five-phase plan for space. This job now is working with NATO primarily to understand where they are going and to work out how the

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United States' capability fits with NATO as well. Obviously, the U.S. brings the preponderance of space capability to NATO, but there are so many other countries within those 32 that are building their own space commands that can bring capability to NATO, should—hopefully not—NATO be required to use it. There's a bit of working with NATO as they bring some of these capabilities in and cohere them together, which is what the U.S. has done for years with various capabilities of its own.

It is ultimately about working with NATO to understand where they want to go with space, to run TTXs, war games, those sorts of things, and bring NATO into it so that they understand the complexities of space. The way that it's set up right now is that NATO Space Centre sits under General Hecker in AIRCOM [Allied Air Command]. We don't know whether there'd be a separate SPACECOM. With the importance of space in any conflict and the current conflict in northern Europe, I think NATO is trying to accelerate their plans, and certainly the U.S. is here to help.

MA: Historically, the DoD has owned the Space Domain for the U.S. However, now that role seems to be shared by the Department of Commerce, which clearly shows the evolution of commercial. The FAA is moving outside the atmosphere to Space. Clear that commercial space is coming.

AM Godfrey: Yes, 100 percent, and that's the heart of it as well. NATO, I think, will release a commercial space strategy in the coming months. Aside from any national military space commands, commercial space is clearly huge. So how do you harness this, just like the U.S. has done with TACSRT and JCO? NATO is doing it through APSS, the Allied Persistent Satellites from Space Program, which is essentially a brokerage to bring in space-based ISR and get it to 32 different nations. I think the potential there, especially with commercial, is huge.

MA: From the U.S., U.K., Austria, Canada, Germany, France, and other partners in the space security, what does the real operational integration between these nations look like? I know you're starting a new partnership program. Can you discuss this program or initiative?

AM Godfrey: One of our deliverables is the international partner strategy for the United States Space Force. So, that is looking at three different areas: force design, force development, force operations—and how we integrate allies and partners across all those areas. Right from the beginning, the CSRO, Lieutenant General Sean Bratton, when he's building the objective force, the force that the United States requires in potentially 2040, whatever time frame you're looking at, how can allies and partners contribute to that—all the way back to force development in terms of war games, like Schriever Wargame, training, exercising, education in that force development area, into current operations. How do allies and partners integrate into current operations? I think a good example of that through U.S. Space Command is Operation Olympic Defender. It was originally UK and Australia, expanded to Five Eyes—it has now expanded to Canada, and has now expanded to France, Germany, and New Zealand. So, there's seven nations in a named space operation.

So, if I go back to my point about the CAOC and Operation Inherent Resolve, then that is a named operation that, politically, you decide to join and bring some level of capability to it. Operation Olympic Defender is the same. So politically, those seven nations have decided to join a space operation, which is a big deal, and they will bring their capability into that operation, whether it's space domain awareness, space control, SATCOM, or whatever it happens to be. The trick there is making it interoperable and integrating those capabilities. Now, if we can do that downstream and ensure that we do that through

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force design and force development, then we can make it much easier for the future. If I take CSpO, the 10-nation forum, seven of those nations are now in [Operation] Olympic Defender. There are three—Norway, Italy, and Japan—that sit outside, but what CSpO can now do is get all those nations to come and join a space operation. Now, all those nations are doing space operations—it's about integrated space operations. So that's how we do it, through things like the CSpO initiative and named space operations like Olympic Defender.

MA: For coalition partner companies, I am hearing there is concern that technology exchanges will become more difficult under the new administration. Thoughts?

AM Godfrey: We're working on the international partner strategy to address this concern. I spoke about that at the AFA Warfare Symposium. If an Australian startup has something that—call it a silver bullet—you go, wow, that is something we really want. What is the process to bring that into the U.S., potentially into the U.S. Space Force to adopt? Because it might be game-changing technology. The path has been unclear. It has been difficult, and we are trying to smooth that path, potentially with fast-track [acquisitions]. How do we do it? The hardest thing is what capabilities are out there—how do I find the silver bullet in the global haystack? That's where we need close integration on research and development through to operations. We need information sharing to know that there is an Australian company with a silver bullet or an Italian company that comes up with something. So, it's fascinating, and we need examples. However, this is precisely what the International Partners Strategy is trying to do through force design, force development, and force operations.

MA: I have always asked, "What's your favorite book? " It does not have to be on Gen Saltzman's reading list.

AM Godfrey: I couldn't pick a favorite book. I've got a couple of favorite authors. I like all sorts of stuff. Certainly, I loved the World War II books. One of the first books I read was a book called *Tumult in the Clouds*, which was by James Goodson who was a U.S. citizen who, through Canada, joined the Royal Air Force and then the Eagle Squadrons in the Second World War. Some amazing stories—I love those stories. *Wing Leader* is a fantastic book about leadership by Johnnie Johnson, one of the leading aces in the Second World War. Again, those were fundamental to shaping my thoughts about airpower and leadership.

James Holland is the one who wrote *Battle of Britain*. He's a historian that changed the way that you read a history book, because rather than sequential events, he tells the story from a personal perspective—he finds the personal stories, which are interesting. So, his book on the Battle of Britain, I think, is a seminal work; and I love the way that he writes his books.

A friend introduced me to the *Bobiverse* series of books by Dennis E. Taylor. It's about a guy who gets killed but had signed up for brain cryogenic freezing and wakes up again in 100 years in a completely different United States. It's just fascinating about space domain and some of the stuff they talk about that are starting to look like potential futures here. I always loved how science fiction teleports you into the future. These are creative people looking at this, rather than military people with a set worldview. I've been in for 34 years now, and I'm trying to think differently. This was a book that opened my horizons.

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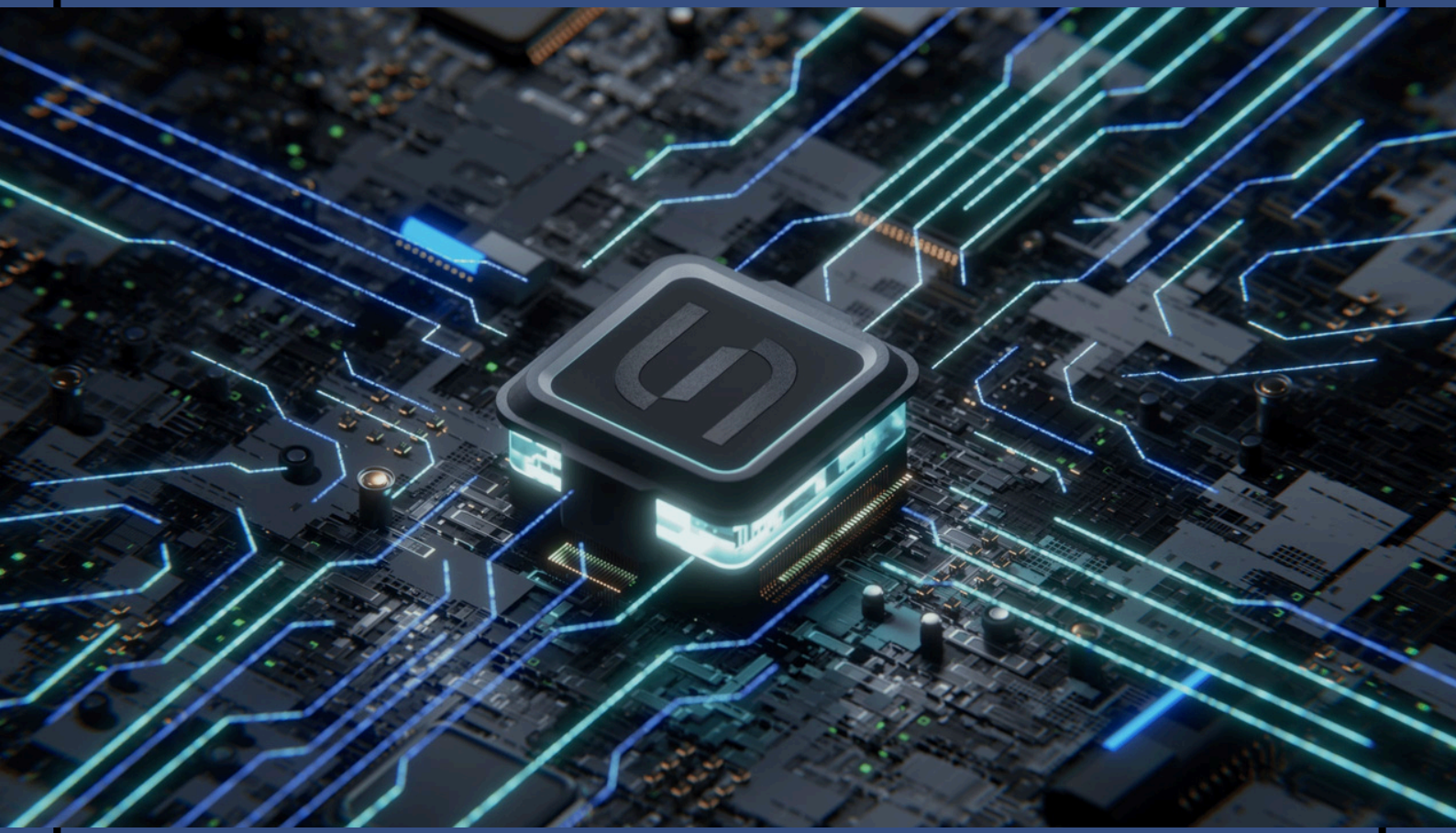

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MA: How do you cope with the stress of your job?
AM Godfrey: I've developed coping mechanisms over the years, and we all go through ups and downs. I've had some big deployments; I've deployed twice in less than 24 hours, once for Libya and then once for Syria. I've been sleep-deprived. I've done media interviews after about two hours of sleep in three days, and stuff like that. It's through that you start thinking about and developing your coping mechanisms. The one thing I'm religious about now is getting up and working out every morning. The benefits of exercise are enormous in reducing stress, clearing your mind, and not thinking about work. I love the Space Force for the wearable tech and tracking your statistics. They give me my daily baseline to know whether I'm above or below it. If my resilience is low based on the aura ring score, I'll make sure that I go to sleep an hour earlier, or so for me, it's always about having enough in the tank in day-to-day operations, so that I can surge when I need to. I'm lucky I've been tested in surge, so I know the boundaries that I can work with. It's about having discipline on a daily basis to get up and go to the gym—that puts you in control. It's when you're out of control that things start getting stressful.

MA: What advice do you have for young Space Force Guardians?

AM Godfrey: It was when I was a station commander for the first time, it hit me that people would be coming through the office and might want some advice. I was still 23 years old. So, I came up with three things. The first one is to 'always be yourself,' because there is so much pressure in the modern world to try to be someone else or fit into a group. I've said at graduations that these people have been selected for who they are. There is absolutely no reason to try and change to fit into something or pretend you're someone else. You've been selected for who you are, so be yourself.

The second one is 'don't plan too far ahead.' It sounds counterintuitive, but what I have found in a 34-year career in the military is that you can have a plan, a hope, a dream, whatever it is, and you may well get there, but the path will not be as linear as you think. Some doors will shut—I've got plenty of stories of doors being shut in my face; but at that same time, a door will open, and you've got to have the bravery to jump through that door, and you'll end up in a place you didn't expect. The other thing about not planning too far ahead is that you see too many people—hey, where are you going next? What's happening next? What's your next plan? What are you thinking? It's about enjoying the moment. Thirty-four years have whizzed by for me. I've had some amazing times. If you are continually worrying about the destination on the train, you'll forget to look out the window. You only get one chance at this, and you've got to live in the moment. My career took off when I started living in the moment rather than worrying about what was coming next.

The third one is from a Baz Luhrmann song, [Everybody's Free to] Wear Sunscreen—for anyone reading this, read the lyrics, because it was a university commencement speech put to music. There's one line there that says, 'do one thing every day that scares you.' That is about personal growth. Because you can sit in your comfort zone, not push yourself, never feel fear, but if you do one thing every day that scares you--whether it's turning that shower to cold in the morning or volunteering to give a big speech at a conference, you will get so much more out of life. You will grow personally as a result.

MA: Air Marshal Godfrey, this has been an incredible discussion. You've given us insight into the evolution of space warfighting, the importance of allied partnerships, leadership and the future of innovation in this domain.

Archangel Lightworks is building the future of global connectivity – linking Space and Earth with miniature, deployable, high-performance communication systems.

Today's networks in Space and on the ground are not well connected, with global infrastructure that is insecure, insufficient, and vulnerable. Nearly 3 billion people remain unconnected, and billions more lack reliable access. Subsea cables – the backbone of global internet traffic – face growing risks from climate disasters and malicious threats. Meanwhile, satellite-to-ground communication still depends heavily on radio, which is bandwidth-limited, congested, and insecure.

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To learn more, get in touch by visiting www.archangel.works/enquiries.

SFA Feature Article:
Reflections on the 2025 AFA Warfare Symposium: A Spacepower Perspective

KAREN LAWRIE,
SPACEPOWER MAGAZINE
EDITOR & COMMS DIRECTOR

Attending the 2025 Air & Space Forces Association (AFA) Warfare Symposium was a truly enriching experience. Most importantly, representing the Space Force Association (SFA) as the Editor of Spacepower Magazine, I had the privilege of engaging with military leaders and space advocates dedicated to strengthening our nation's air and space capabilities.

The symposium provided an invaluable platform for discussions on the challenges and triumphs of the U.S. Air Force and U.S. Space Force, reinforcing their pivotal roles in national defense. Over the course of the event, I listened to senior leaders articulate their vision for the future, emphasizing the importance of modernization, partnerships, and strategic deterrence in an increasingly complex global security environment.

Strengthening the Partnership Between AFA and SFA

One of the most significant takeaways from the symposium was the evolving partnership between AFA and SFA. As organizations that advocate for and support their respective services, AFA and SFA share a common goal: to ensure that Airmen and Guardians have the necessary resources, training, and support to fulfill their missions. This collaboration reflects the evolving nature of modern warfare, where joint operations across multiple domains—air, space, and cyber—are crucial for maintaining superiority.

SFA's presence at the symposium underscored its commitment to advancing the Space Force's mission while fostering synergy with the Air Force. The discussions highlighted how space operations are now integral to every facet of military engagement, reinforcing the need for continued investment and policy development to ensure our forces remain ahead of emerging threats.

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Key Takeaways from Gen. Saltzman's Speech

A highlight of the symposium was the keynote address delivered by Chief of Space Operations (CSO) Gen. Chance Saltzman. His speech provided a compelling assessment of the Space Force's current landscape and strategic priorities.

Gen. Saltzman emphasized the urgency of shifting from a reactive to a proactive space posture, reinforcing the need for Competitive Endurance, a doctrine that ensures the Space Force can sustain long-term strategic competition.

He outlined three primary lines of effort:

1. Fielding Combat-Ready Forces: The Space Force must continue to train and equip its Guardians to operate in contested environments. The integration of advanced technologies, resilient architectures, and rapid decision-making capabilities will be key to maintaining operational effectiveness.
2. Amplifying Collaboration with Allies and Industry: International partnerships and commercial collaborations will play a crucial role in enhancing space security. The Space Force is committed to deepening these relationships to ensure shared situational awareness and coordinated responses to threats.
3. Modernizing to Outpace Adversaries: As potential adversaries continue to develop counter-space capabilities, the Space Force must remain ahead through innovation and agile acquisition strategies. Gen. Saltzman highlighted investments in next-generation satellite systems, cyber resilience, and artificial intelligence-driven analytics as essential components of the force's modernization roadmap.

His speech reinforced the reality that space is no longer a sanctuary but a contested domain where the U.S. must maintain superiority to protect national security interests. It was inspiring to hear how the Space Force is proactively addressing these challenges while maintaining a steadfast commitment to its Guardians and mission partners.

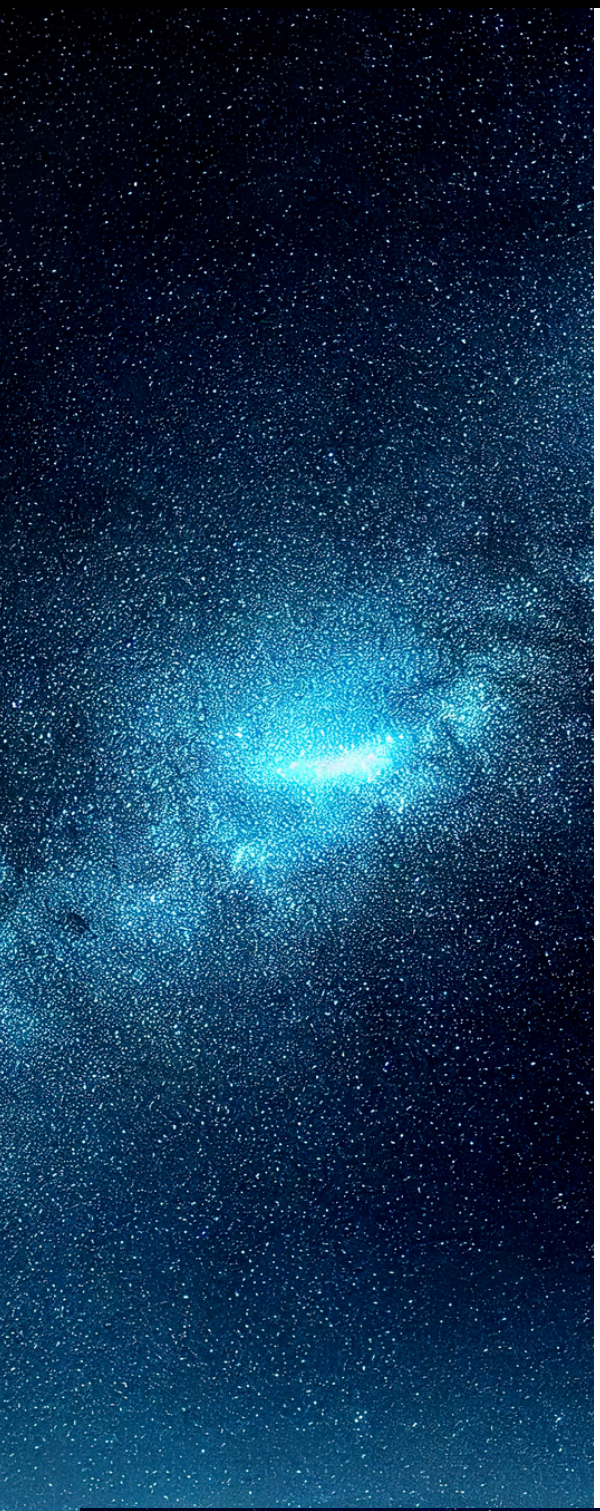
AFA Warfare Symposium: A Crucial Forum for National Security

The AFA Warfare Symposium served as a reminder of the immense dedication and expertise within our military services. Whether discussing force readiness, emerging threats, or operational excellence, every conversation underscored the importance of a united approach to defense.

As both a long-time Air Force spouse and now an Air Force mom, I was deeply moved by the passion and commitment of our service members and their supporters. The symposium reaffirmed the importance of continued advocacy, education, and collaboration to ensure our forces remain prepared for the challenges of tomorrow.

Representing SFA at this event reinforced my belief in the critical role that organizations like AFA and SFA play in shaping the future of air and space power. The future of warfare is undeniably multi-domain, and partnerships forged today will define our strategic advantage for years to come.

The 2025 AFA Warfare Symposium was not just an opportunity to reflect on where we stand but a call to action—one that urges us all to support those who safeguard our nation from above.



The Future of the Space Sector in 2025: Key Insights for Small Businesses & Emerging Players

SFA FEATURE ARTICLE

DR. MANJIT POPE, PRESIDENT, SFA INTERNATIONAL

The global space industry is undergoing a radical transformation, driven by geopolitical shifts, emerging technologies, and the expanding role of commercial enterprises. As we enter 2025, small businesses and new entrants seeking to establish themselves in the space economy must navigate evolving opportunities and challenges.

This article explores the current market landscape, the latest technological advancements, and the strategic moves needed for businesses to thrive in this high-stakes domain.

The State of the Global Space Industry in 2025

The space sector is projected to exceed $1.5 trillion by 2040, with 2025 marking a pivotal year for innovation, commercialisation, and strategic competition. Key industry segments include:

1. The Expanding Commercial Space Economy

The commercial sector is dominating satellite launches, space tourism, and lunar exploration. Companies like SpaceX, Blue Origin, and Rocket Lab are redefining access to space. Meanwhile, small and medium enterprises (SMEs) play a crucial role in component manufacturing, data analytics, and AI-driven automation.

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"The space sector is projected to exceed $1.5 trillion by 2040, with 2025 marking a pivotal year for innovation, commercialisation, and strategic competition."

What This Means for Small Businesses:

- Growth in low-Earth orbit (LEO) services, such as Earth observation and satellite connectivity, opens doors for data-driven startups.
- Private-public partnerships, particularly in the UK, EU, and US, are providing financial incentives and funding for space tech innovation.

2. Geopolitical Tensions & The Militarization of Space

The United States Space Force (USSF), China's People's Liberation Army Strategic Support Force, and Russia's military space program are rapidly advancing capabilities in defensive and offensive space operations.

- The weaponization of satellites and hypersonic missile detection systems are at the forefront of global security concerns.
- The UK Space Command and ESA (European Space Agency) are focusing on counter-space measures and cyber-resilient space assets.

What This Means for Small Businesses:

- Companies with expertise in cybersecurity, AI-driven surveillance, and space-based intelligence gathering can play a crucial role in defense contracts.
- The demand for secure satellite communication solutions is expected to surge.

3. The Space Supply Chain Revolution

Global supply chains have struggled with semiconductor shortages, reliance on rare Earth minerals, and increased demand for low-cost launch services.

- Emerging spaceports in the UK (SaxaVord and Spaceport Cornwall) and India's push for self-reliant launch capabilities signal a decentralization of the space industry.
- Reusable rockets and 3D-printed components are reducing costs and increasing supply chain resilience.

What This Means for Small Businesses:

- Companies that specialize in additive manufacturing, AI-driven logistics, and sustainable material sourcing will be vital to reducing dependency on fragile supply chains.
- Opportunities exist for UK-based SMEs to engage in European and NATO-backed defense contracts focused on space security.

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Emerging Technologies Shaping the Future

As 2025 approaches, innovation in AI, robotics, quantum computing, and biotechnology is shaping the next generation of space missions.

1. AI & Automation in Space

- AI-driven mission planning is reducing operational costs and improving efficiency for satellite operators.
- Autonomous spacecraft and AI-driven orbital debris removal systems are gaining traction.

2. Quantum Communications & Cybersecurity

- Quantum cryptography is being developed to ensure secure satellite communications, protecting against cyber warfare and state-sponsored hacking.

3. Lunar & Mars Economy

- NASA's Artemis Program and China's Tiangong space station expansion are paving the way for human settlement beyond Earth.
- The demand for oxygen extraction, lunar mining, and radiation-resistant habitats is rising.

What This Means for Small Businesses:

- Startups focused on deep-space AI, sustainable space resource utilization, and radiation shielding materials will find increasing investment opportunities.
- UK and EU funding for lunar research presents unique entry points for European SMEs.

SFA International: Connecting Small Businesses to the Global Space Economy

As the President of SFA International, I have witnessed firsthand the unparalleled growth and opportunities emerging for small businesses. SFA International is actively bridging the gap between startups, government agencies, and major defense players.

How SFA International Supports SMEs in the Space Sector

- Facilitating public-private partnerships between space startups and government agencies (NASA, UKSA, ESA, USSF).
- Providing intelligence insights on funding, grants, and investment opportunities for SMEs.
- Hosting strategic networking events to connect businesses with potential partners, investors, and procurement officers.
- Promoting sustainable space policies and advocating for responsible innovation in space exploration.

Opportunities in 2025

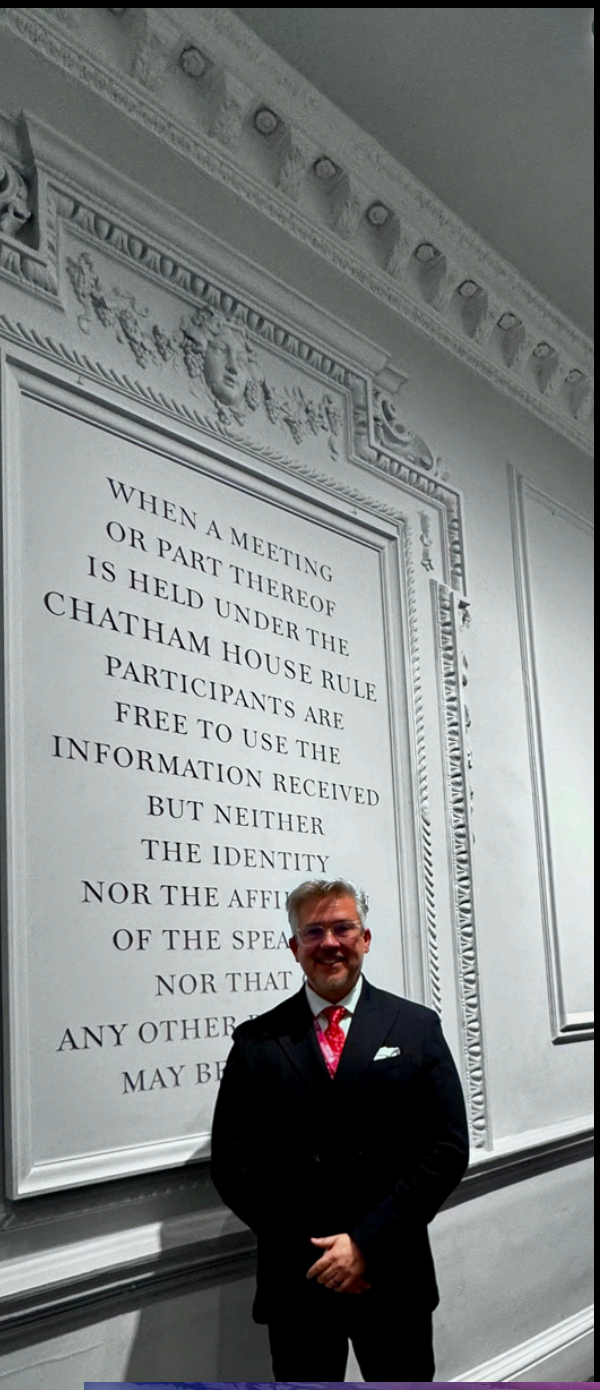
For small businesses and new entrants, 2025 represents a transformative year. The rapid growth in satellite applications, defense-related space tech, and AI-driven analytics means that now is the time to invest in the space economy.

Join the space revolution with SFA International.

Stay ahead of the curve, innovate, and secure your place in the future of global space power.

About Dr. Manjit Pope

Dr. Manjit Pope is the President of SFA International, a global strategist in space technology, and an advocate for sustainable and inclusive space policies. She has led national and international growth programs, supporting governments, businesses, and academia in navigating the complexities of the space economy.



The New Space Race Is About More Than Being First

SFA FEATURE ARTICLE

DR. NATE DAILEY, SFA INTERNATIONAL VICE PRESIDENT

In the 1960s, U.S. investment in space led to the first Moon landing and global prestige. Today, private industry outpaces government in agility, building on decades of public-private collaboration to drive a trillion-dollar economy.

Today's imperative for tomorrow's outcomes is unmistakable: American commercial investment must focus on establishing industry-driven standards and infrastructures to fuel the next generation of commercial ingenuity, historically alongside governmental leadership—now largely in the center stage—to build the next generation of space technology and economic opportunities. The stakes of building this envisioned space economy are more than corporate profits: It involves ensuring that space-derived benefits continue to drive innovation and prosperity that will spill over across all sectors of society.

The Apollo program proved that humanity could reach the Moon, earn global prestige, and propel private industry to lead today, driving innovation at a pace that the government alone cannot match. In the 90s, companies like Quickbird and Ikonos provided imagery through the lens of national security. 'Commercial integration' later became the mantra– still a government-centered mindset. Today, outdated regulations hinder industry-led innovation. Newer, adaptive policies will empower growth and resilience and maintain U.S. leadership to meet today's fast-paced themes and overcome status-quo-based change resistance.

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Technological achievement is the starting point for a healthy commercial space market. A safe, stable infrastructure that promotes information sharing is key to a viable space business ecosystem and market reliability. This infrastructure also helps ensure operational stability. Expanding the role of private enterprise, a long-standing government partner, will solidify U.S. economic and geopolitical leadership in space. This sort of strategic business-stability-oriented thinking for the space domain will foster innovative commercial growth.

Satellite service market collaboration can reduce traffic and debris risks while still protecting proprietary information. Sharing an agreed-upon Minimum Viable Information (MVI) set or anonymized satellite operational data can enable operators to mitigate risks, improve efficiency, and foster trust across the industry. American enterprises like LeoLabs and **COMSPOC** contribute to mitigating risk, bolstering national prestige and competitiveness, preventing conflict, and driving innovation that benefits additional sectors like manufacturing, telecommunications, energy, and healthcare, strengthening the broader economy.

A dynamic and flourishing space economy enables rapid innovation from established and new companies through healthy competition. This sort of balanced market fosters industry-wide growth, progress, and participation. Recent NASA research demonstrates that unmitigated disparities in scale and competition among satellite operators can stifle growth and artificially constrain economic gains. With improved efficiency, the U.S. space economy could see significant gains, leading to an additional $1.1 billion annual revenue in the sector. Key to unlocking the future space economy is supporting small and medium-sized satellite producers with STEM and business-related resources and capabilities to remove disadvantages and propel them forward. Under these broadened conditions, participation across the space economy uncovers perspectives and capabilities to ensure resilient supply chains and sustained national economic growth. Enhanced competition fully realizes our economic potential, builds the STEM workforce of tomorrow, and sustains a virtuous cycle of financial and technological leadership in space.

These insights highlight the importance of fostering frameworks for satellite service-provider market collaboration that enable growth while safeguarding national security and defense. Support for private-sector-led economic research to help policymakers optimize orbital use encourages innovation and competition, delivering spillover value in how government investment in technology benefitted during the first Space Age. More private-sector leadership ensures agility and innovation needed to respond to evolving market demands, overcoming bureaucratic inertia that often slows government-led efforts.

Smart investments in space infrastructure today—like Lunar-PNT and LunaNet, a U.S.-led initiative developed with commercial partners, like Intuitive Machines, to create an interoperable communications and navigation framework, and Marslink, a SpaceX-led initiative—prioritize enduring stability and vision to demonstrate how commercial industry already use Lunanet protocols for stable, rapid progress where government programs often stall under bureaucratic cycles. A long-term infrastructure vision supports immediate needs and lays the groundwork for

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continuous innovation and economic growth, securing U.S. leadership for future generations. While China has pursued a marathon mindset with programs like Tiangong and Chang'e, the U.S. remains the global leader, defining interoperability standards and driving cutting-edge innovation.

NASA is defining interoperability standards through initiatives like LunaNet, ensuring public and private alignment to enable seamless communication for lunar missions such as iSpace's HAKUTO-R RESILIENCE lunar lander and TENACIOUS micro rover. Just as GPS and the internet transformed the global economy, Lunar-PNT and LunaNet unlock new markets, build enduring space infrastructure, secure America's historical global leadership in space technology, and strengthen its influence in setting international standards.

As in traditional markets, stronger leadership now in space ensures lasting strategic and economic success. As we learned from recent cellular telecommunications standards, playing an early leadership role in establishing economic frameworks creates a stable foundation for long-term free market-driven economic stability.

Small Businesses: The Backbone of Space Innovation

Small businesses have proven their potential to lead in this new space race, and with the right support, they can accelerate the American space economy alongside established players. Intuitive Machines became the first commercial company to land on the moon in 2024, just a year after graduating from small business status on February 14, 2023. Firefly Aerospace followed suit, landing its Blue Ghost on the moon in 2025, an impressive feat for a company founded in 2014 and graduating from a small business in 2018. These successes show that small firms can compete at the highest levels, but they often face steep barriers—regulatory delays, high compliance costs, and limited access to capital. The government can stimulate growth through licensing optimization processes. Implementing public administrative mechanisms like a Rapid Space Enterprise Clause (RSEC) might markedly decrease approval durations, resulting in an estimated yearly savings of $350 million for the sector. A one-stop digital portal, combined with an FFRDC-led public-private partnership (PPP), could further integrate small businesses into policymaking, ensuring their voices shape a more dynamic and faster system.

Space Control: Creating Stability for Small Businesses

The Chief of Space Operations' 2024 comments on Space Control and Superiority laid the foundation. However, recent remarks by Space Force Gen. Chance Saltzman on March 3, 2025, at the Air and Space Forces Association Warfare Symposium in Aurora, Colorado, sharpen the focus. Saltzman declared that the U.S. Space Force's primary function is to ensure control in, from, and to the space domain, defining space control as the service's newest core mission.

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“Domain control is the special province of warfighters, a unique responsibility that only military services hold,” he said, distinguishing the Space Force from civilian entities and underscoring its purpose to achieve space superiority. The stability derived from space superiority creates a secure orbital environment where the American space economy – including small businesses– flourishes. COMSPOC's collision avoidance data helps to mitigate safety risks that could otherwise cripple the space industry. This stability lowers insurance and operational costs, allowing companies like Intuitive Machines and Firefly Aerospace to focus on innovation. Integrating small businesses into policy via a PPP-like framework can ensure these firms thrive, further driving economic growth.

Niche Markets: Opportunities for Small Businesses in a Circular Economy

Small businesses can also lead in emerging niche markets by building a circular space economy that reuses materials already in orbit. Companies like Cislunar Industries are pioneering on-orbit reclamation, which would salvage defunct satellites for raw materials—a market worth $1-2 billion, given NASA’s estimate of 3,000 tons of debris. This business model leverages the sunk cost of escaping Earth’s gravity well, often $10,000 per kilogram to low Earth orbit. According to European Space Agency research, on-orbit remanufacturing, where firms refurbish components or 3D-print parts in space, could cut launch costs by 30-50% per mission. Debris mitigation services– such as nets or robotic arms– offer another avenue, projected at $500 million by 2030. These niches let small businesses complement giants, accelerating the American space economy while providing strategic stability for sustaining business operations.

The new space race is about more than being first. It’s where large and small businesses alike, supported by smart policy and strategic stability, drive innovation and prosperity. Policies grounded in research and bold commitments to space's long-term promise must leverage the speed and adaptability of the private sector to ameliorate the slower pace of government bureaucracy. The future of space exploration hinges on pioneering commercial ventures strategically aligned with well-planned space infrastructure development and establishing the standards that will drive the emerging space economy forward. The real race is for strategic economic supremacy in a multi-trillion-dollar frontier, and those who shape this future today will drive the global space economy and the civilian and military capabilities it brings tomorrow.

Now is the time to act—before the opportunity to lead slips away. The question we now face is: Will we rise to lead a free-market space economy or cede to those who would dictate the future of an unfree world?

“The views and opinions expressed in this article are solely my own and do not necessarily reflect the official policy or position of any organization, institution, or employer with which I am affiliated. Any assumptions, analyses, or interpretations are my own and should not be attributed to any other entity.”

About Dr. Nate Dailey

Dr. Nathaniel “Nate” Dailey is a globally recognized authority on space-related international affairs, blending three decades of national security, commercial industry, and policy expertise. With a Doctor of International Affairs (Johns Hopkins SAIS) and two Master’s degrees in public administration and policy, and International Public Policy, he has guided U.S. leadership in space governance, public-private partnerships, and advanced defense capabilities. A Fellow of the Royal Aeronautical Society and Academician of the International Academy of Astronautics, Dr. Dailey is dedicated to ensuring that free-market, democratic values propel humanity’s next great leap beyond Earth.”

Innovation in Small Business: The Future of Robotics and National Security

ROBERT ANDERSON - GHOST, SOLUTIONS ARCHITECT AT OPEN DROIDS & PRESIDENT, SPACE FORCE ASSOCIATION PUERTO RICO

Innovation has always been the backbone of national security. From the first satellites to artificial intelligence, small businesses have driven the most disruptive advancements in defense and aerospace. Today, another pivotal moment is unfolding—the rise of robotics and automation, powered by open-source AI.

As a former satellite network and payload controller at DSCSOC, U.S. Army Space Command, I have seen firsthand how automation and technological innovation reshape military operations. Space, logistics, and security are converging in ways that demand a new approach to robotics.

A New Era of Robotics

There is a misconception that the robotics industry is saturated. The reality is that many current designs are overpriced and over-engineered. By leveraging open-source AI and modular hardware, companies like Open Droids are deploying systems that are faster, cheaper, and more effective than traditional humanoid robots.

Open Droids challenges the assumption that robotics must mimic human form to be effective. The company's focus on task-oriented robotic units prioritizes scalability and affordability, making autonomous systems more accessible for defense, logistics, and industrial applications. With a mission to eliminate human drudgery, Open Droids is developing cost-effective, highly adaptable robots that could transform everything from military supply chains to space operations.

Jack Jay, co-founder of Open Droids, puts it succinctly: "We aren't just building robots; we are engineering the next evolution of work, where efficiency meets limitless potential."

Why Open-Source Matters in Defense

Historically, the biggest advancements in technology —whether GPS, the internet, or satellite communications—have come from open collaboration. The defense sector must move away from closed, proprietary systems that limit flexibility and drive up costs.

Open Droids embraces an open-source Skillnet model, allowing developers and military technologists to build upon its robotic hardware. This ensures continuous upgrades, rapid adaptation to new threats, and a broader ecosystem of innovation than any single company could achieve alone.

The power of open-source collaboration is not just about improving robotics—it's about keeping the United States at the forefront of technological dominance. As Brock Pierce, an advisor to Open Droids, states:

"The future belongs to those who build it. Open-source robotics isn't just an industry shift—it's a revolution in how we solve the world's greatest challenges."

The Geopolitical Imperative

China is already investing heavily in humanoid robotics and AI-driven warfare, with a market for humanoid robots projected to exceed $100 billion by 2030. Meanwhile, the United States leads in AI development but risks falling behind in scalable robotics deployment.

The Space Force, Air Force, and broader DoD must act now to ensure that adversaries are not outpacing U.S. capabilities. Robotics will define the next generation of warfare, not just in kinetic engagements but in cyber, logistics, and space operations.

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A strong national security strategy should incorporate robotics across all levels of defense. From unmanned logistics convoys to spaceport maintenance and autonomous battlefield reconnaissance, robotics is no longer a futuristic concept—it is a present-day necessity.

From Battlefield to Orbit

The future of space operations will not be managed solely by humans. Autonomous robotic units will maintain spaceports, conduct orbital repairs, and defend against potential threats—all without putting human lives at risk.

With the U.S. Space Force expanding its role in cislunar operations and beyond, automation is no longer optional. The next great power struggle won't just be about hypersonics or electronic warfare—it will be about who controls the most efficient robotic fleets in space and on the battlefield.

Consider the possibilities:

- Autonomous drones securing satellite networks from orbital debris.
- AI-powered robotic units optimizing military logistics in austere environments.
- Swarm robotics revolutionizing perimeter defense in contested regions.

These are not distant scenarios—they are the next logical steps in modern warfare and space operations.

Scaling for the Future

Open Droids has an ambitious roadmap for robotic production, positioning itself as a leader in the next generation of autonomous systems:

- 2025: 20,000 units
- 2026: 700,000 units
- 2027: 4,000,000 units
- 2028: 40,000,000 units

This level of scale highlights a critical reality—robotics is advancing faster than many defense leaders realize. Those who do not integrate autonomous systems into national security planning today will be left behind in the technological arms race.

At the core of Open Droids' strategy is the understanding that hardware scalability is the key to dominance. While software advances rapidly, the true bottleneck is hardware production capacity. Companies that solve this challenge will set the standard for the robotic age.

The Call to Action

If the Space Force and defense community are serious about innovation, they must invest in the right robotics strategy now. That means:

1. Prioritizing open-source AI over proprietary black-box systems.
2. Integrating robotics into national security planning—from base logistics to orbital operations.
3. Partnering with companies like Open Droids to deploy scalable, cost-effective robotic units for defense applications.

The next war won't be fought solely by humans. It will be a battle of intelligent machines, working alongside warfighters. The question is—who will build them first?

The answer will define the technological balance of power for the next century. Robotics is no longer a niche industry—it is the foundation of the future battlefield, the future supply chain, and the future of human progress itself.

Open Droids is already leading that charge. Learn more at www.opendroids.com.

Small Business, Big Ideas: Bridging the Gap in Space Innovation, DTI

KAREN LAWRIE,
SPACEPOWER MAGAZINE
EDITOR & COMMS DIRECTOR

The space industry is no longer just for government agencies and massive defense contractors. Today, small businesses with agile teams and big ideas are pushing the boundaries of space technology. However, many face challenges in scaling and commercialization. The Disruptive Technology Index (DTI) and its flagship initiative, Innovate to Accelerate (I2A), are bridging the gap between small business ingenuity and resources needed to thrive in the space economy.

The Valley of Death: Challenge for Space Startups

One of the biggest hurdles for space-focused small businesses is overcoming the "valley of death"—the gap between government-funded research and commercial viability. Programs like Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) provide crucial early-stage funding, but many companies struggle to transition from research and prototyping to sustainable business operations. Without strategic support, promising technologies can stall, unable to secure capital or partnerships for real-world deployment.

DTI steps in to solve this challenge. A California-based non-profit, DTI was founded to democratize access to knowledge, resources, and funding for space entrepreneurs. Their Los Angeles headquarters, THE BR-DGE, serves as a hub for connecting innovators with industry, policymakers, and investors. Through programs like I2A, they provide essential support to high-tech small businesses, helping them move beyond government grants into commercial success.

Innovate to Accelerate (I2A): Launchpad to Success

Under the leadership of Rakhee and Rebecca (R^2), the I2A program supports space-focused small businesses transitioning from Phase II SBIR awardees to fully commercialized ventures. The program is a hands-on, results-driven accelerator that equips companies with the tools, mentorship, and strategic insights they need to thrive.

Over 12 weeks, I2A participants dive into critical topics such as government contracting, cybersecurity, supply chain management, and go-to-market strategies. The support extends for an additional 15 months, ensuring long-term backing for successful execution. This structure allows startups to refine business models, engage with potential customers, and attract investment from both public and private sectors.

Public-Private Partnerships: Scaling Innovation

DTI believes public-private collaboration is essential for fostering sustainable growth in the space industry. By connecting entrepreneurs, technologists, private organizations, and policymakers, THE BR-DGE creates an ecosystem where small businesses can thrive.

Programs like I2A address a crucial gap in the federal acquisition process. SpaceWERX's Direct to Phase II SBIR investments provide a launching point, but without targeted commercialization support, many companies fail to scale operations. By working closely with SBIR/STTR awardees, I2A tailors its curriculum to real-world challenges, positioning businesses to secure contracts, build strategic partnerships, and successfully bring innovations to market.

The Future of Small Business Innovation in Space

As the space industry expands, small businesses will play an increasingly vital role in shaping its future. From advanced propulsion systems to next-generation satellite technologies, startups drive transformative ideas. However, without the right support structures, these innovations risk fading into obscurity.

DTI's I2A program demonstrates that with the right mentorship, funding, and strategic guidance, small businesses can overcome the valley of death and emerge as industry leaders. By fostering an ecosystem where innovation is actively nurtured, programs like I2A ensure the next generation of space technology reaches its full potential.

For entrepreneurs looking to scale their space ventures, the message is clear: big ideas need strong bridges. Thanks to organizations like DTI and THE BR-DGE, those bridges are being built—one startup at a time.

Navigating the Space Domain as a Small Business: Lessons in "Mission-Driven" Success

BY ALEXANDRA HOEY, CHIEF GROWTH OFFICER, STRATEGIC ALLIANCE BUSINESS GROUP LLC

The increasingly dynamic space domain, once exclusively the realm of government giants and established aerospace behemoths, is now witnessing a surge of innovative small businesses. Firms like SABG are proving that customer-focused and execution-oriented service is essential for success. Having navigated the dynamic space domain as an emerging company, SABG has gained insights we believe could be helpful for any aspiring space enthusiast.

1. Scalable Agility Comes Through Rigorous Research

Breaking into the space industry demands deep expertise, relentless pursuit, and accepting that overnight success is more myth than reality. For SABG, our foray involved endless research, meticulously analyzing solicitations, and crafting numerous bids. We collected a few "thanks, but no thanks" debriefs, but each one was an invaluable lesson in "how to actually speak their language." Viewing research as less a dusty textbook and more a dynamic, ever-shifting puzzle? That's how we cracked the code and optimized our bidding strategies unlocking the doors to strategic partnerships and contract wins.

2. Strategic Alliances Are Vital to Growth

SABG quickly grasped a fundamental truth: in the space game, going solo is a recipe for a lonely orbit. The old adage "the whole is greater than the sum of its parts" wasn't just a poster in the breakroom; it was our operational mantra, and we prioritized building strategic alliances – as our name, Strategic Alliance Business Group – requires. Attending industry conferences, networking events, and even informal gatherings became essential because, in this business, your network is your net worth. It was about more than just swapping business cards – it was about forging genuine connections and finding partners whose capabilities and company DNA complement our own. These strategic alliances have served as powerful catalysts for expansion, broadening our reach and cultivating mutually beneficial partnerships that consistently achieve impactful results for all stakeholders.

3. Customer Understanding Must Go Beyond the PWS

At SABG, we learned serving our customers means going beyond written requirements. The DoD and its agencies, like Space Force, aren't just monolithic entities; they're intricate ecosystems, each with its own unique pressures and priorities. We've made it our business to understand the why behind the what – delving into their operational nuances, strategic aspirations, and even the subtle cultural currents that shape their decisions. This level of deep customer empathy allows us to craft solutions that don't just meet requirements; they anticipate needs and align seamlessly with their overarching objectives, making us less of a vendor and more a vital partner of mission-driven success.

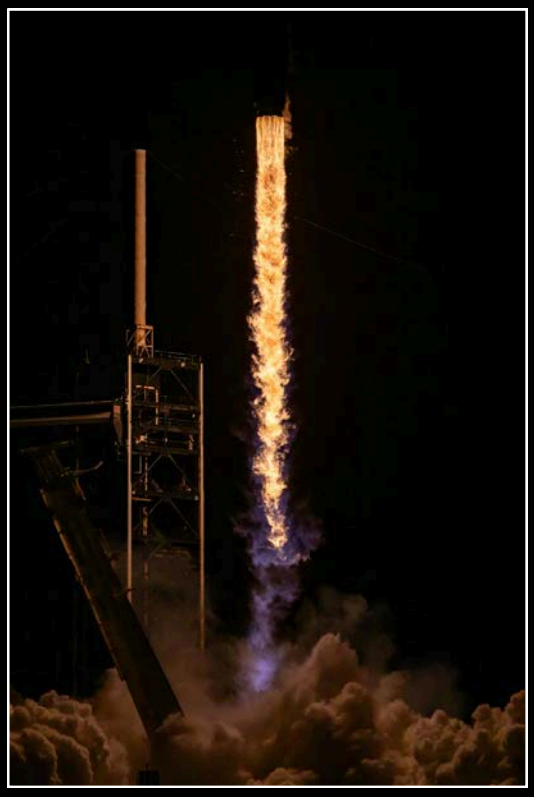
4. Trusted Advisors Are Developed Through Exceptional Service

Once a contract is awarded, our primary focus is delivering exceptional customer service. SABG's priority shifts decisively to the provision of remarkably reliable service. In the fast-paced and critical domain of space operations, responsiveness and dependability are not optional features; they are essential elements of mission success. We endeavor to be more than a vendor; we aim to be the trusted advisor, consistently delivering on our commitments and proactively supporting our customers' strategic aims. This steadfast dedication to exceeding expectations is not just a sound business strategy; it is the key to fostering long-term client trust and building a reputation for unparalleled reliability and expertise.

A small business's journey into the space domain is a continuous odyssey of learning and evolution. By creating scalable agility through research, cultivating strategic alliances, committing to customer understanding, and becoming trusted advisors by prioritizing customer needs, small businesses can carve out their own place in the space domain and beyond.

SABG is a privately-owned professional services company that is both a Service-Disabled Veteran-Owned and Women-Owned Small Business. We provide support in the areas of Program Management, Acquisition, and Strategic Planning; Mission Operations and Intelligence; and Logistics and Engineering.

Special Guest Photographer: Brandon Lindner



SpaceX Falcon 9 rocket launched Intuitive Machines' IM-2 lunar lander, Athena, from Launch Complex 39A at NASA's Kennedy Space Center, February 26, 2025

Photographs by: Brandon Lindner - lindnerpics.etsy.com

THOUGHT LEADERS OP-ED:
STRATEGIC COMMUNICATIONS FOR SMALL BUSINESS: AMPLIFYING SUCCESS AND PROTECTING WHAT YOU'VE EARNED

BY SANDRA PEREZ, PRINCIPAL, GLADIUS COMMUNICATIONS AND B.J. TALLEY, PRESIDENT, GLADIUS COMMUNICATIONS

If your company builds an innovative product or secures a major program win and no one hears about it, did it really even happen? In today's hyper-competitive economic landscape, achieving innovation and success alone does not guarantee growth and recognition for small businesses. And in an era of crowd-sourced, lighting-fast news cycles, years of steady progress can be erased in hours if a crisis is mishandled.

While it might seem obvious that the ability to effectively promote your successes to stakeholders, customers, and industry influencers and to quickly respond to a potentially damaging news event can be an enormous differentiator, small businesses – for a variety of reasons – often de-prioritize and under-invest in strategic communications.

While there's no complete substitute for hiring or contracting for dedicated communications expertise, there are a few foundational steps that small business leaders can invest in to help establish a solid foundation:

1. Build & Proliferate Strategic Messaging Guidance

Establishing or refreshing strategic messaging is the #1 request our firm receives from small businesses. At its core, a strategic messaging architecture encapsulates your company's purpose, values, and what you do better than everyone else. Developing this foundational messaging and documenting it requires an investment of leadership time (one of a small business's most valuable assets) and sometimes outside expertise (since many small businesses do not have in-house PR experts early on) but pays enormous dividends in all facets of your organization. From external communications and marketing campaigns to proposals and talent acquisition, aligning how you talk about your core ideas and capabilities ensures coherence and consistency among your company's customers, employees, and investors.

Getting your business' purpose, values, and differentiators out of your leaders' heads and somewhere everyone can see them is a critical first step, but effective strategic messaging does not stop at development. Dissemination and adoption is key. Once documented, your company's strategic messaging must be embedded into the organizational fabric. This means taking the time to broadcast this guidance to every level of your organization, listening to feedback, and adjusting as needed to ensure your core message is authentic and credible for everyone. Employees with the right messaging and motivation can become your most powerful advocates – better dollar-for-dollar than almost any marketing or public relations investment. Repetition and reinforcement are essential—when employees say they're tired of hearing about it, you've likely communicated it just enough.

2. Get in the Fight – Tell Your Own Story

Our next piece of advice is simple – get out there and share your message! You miss 100 percent of the shots you don't take, so while having a clear message and a plan is ideal, plans and strategies aren't much use if you don't execute them.

-Populate and broadcast on your "owned" platforms first. If you must prioritize, ensuring you have clear, concise information where stakeholders are likely to look for information about your company – places like LinkedIn, Glassdoor, and your website – is your first step. Conducting media relations and marketing outreach makes little sense if there is no place for audiences to learn more and contact you. The bonus of starting with your "owned" channels is that you have direct control over the messaging and information stakeholders see, and these platforms have numerous options for low-cost, targeted outreach through things like blogs and podcasts on your website, LinkedIn articles, email newsletters, webinars, and paid content.

www.gladiuspr.com

-Start small but smart. Everyone loves to brag about being in a major international media publication, but trade media outlets offer an excellent entry point for small businesses to engage in PR and outreach. These publications have a niche yet highly engaged audience, often including potential customers and employees. Furthermore, trade media is highly receptive to high-quality content from emerging companies. Establishing credibility and thought leadership here can lay the groundwork for future placements in more high-profile national and international publications if desired.

-Be strategic when engaging with media. Telling your story through media is a potentially powerful way to build credibility and engage with your target audiences. It's called "media relations" for a reason. It's all about the relationships. Spend the time upfront to identify the journalists and influencers (thought leaders, podcasters, social media users, etc.) who are most relevant to your company and most connected to your stakeholders. Start by simply reaching out to explain why your company is relevant to their content and the type of stories your thought leaders might be helpful for as sources. Be selective when sharing company news to ensure you aren't spamming journalists with information irrelevant to what they cover, and then periodically reach out to see what they're working on. This can be a deliberate process, especially for small companies accustomed to moving fast, but strong working relationships with these key influencers will pay dividends indefinitely.

-Amplify every media placement you achieve. Leverage company and personal social media platforms, your website, events, and direct communication with customers and employees to share when your company receives recognition or positive coverage. It's a great source of content that shows your company and team are part of the conversation in your industry – and can often help secure future interest from journalists and other stakeholders.

3. Leverage The Power of LinkedIn

Finally, for small businesses in the B2B or B2G markets, LinkedIn is the most relevant and effective strategic messaging tool available – offering tools to recruit top talent, engage with customers, and establish thought leadership in the industry. Often the first touchpoint for potential employees and customers alike, LinkedIn is more than just a social network; it's a dynamic ecosystem for business growth.

LinkedIn's powerful recruiting tools can be leveraged to efficiently identify and approach key hires and showcase company values, culture, and innovation. Beyond recruitment, LinkedIn also provides a practical, easy-to-navigate platform for small businesses to share thought leadership, publish news, and engage directly with customers, investors, and industry influencers. We can testify directly to the power of this platform as more than 30% of our company's new business over the last two years can be connected directly or indirectly to an interaction or publication on LinkedIn.

So, where can you start with this powerful communication platform?

·Ensure your company has a page with accurate and updated information – preferably what you developed for your strategic messaging guidance.
·Establish a cadence of posting content – ideally, 1-2 times per week to build momentum. We recommend developing a basic content calendar to allow for advance planning - posts can even be scheduled ahead of time to make regular content sharing easier.
·Don't wait for connections to come to you. Most investors, customers, and potential employees you want to reach are on LinkedIn. Use the platform's powerful search tools to identify and invite them to connect. Once connected, they become basically "subscribers" to your company's content – increasing the likelihood they will see relevant posts and engage.

Finally, while your company's profile and content on LinkedIn are important, the real game-changer lies in your ability to activate employees as ambassadors and thought leaders. LinkedIn's data shows that users are 3-5 times more likely to interact with people than with companies on the platform, so small businesses that can equip and encourage even a small group of their leaders and employees to share their expertise, interact with target audiences and advocate for the company on LinkedIn, stand to gain a significant advantage among peers in strategic communications, builds trust and fosters stronger relationships.

THOUGHT LEADERS OP-ED:

Fractional Firepower: How Small Businesses Can Scale Smarter, Faster, Better

BY JACK SMITH, CEO OF FORTUNA & SFA WESTERN VICE PRESIDENT

In the fast-evolving world of the space economy, innovation isn't just about rockets and satellites—it's about how we think, how we build, and how we scale. As a veteran and the CEO of one of the fastest-growing veteran-owned businesses in America, I've experienced firsthand the thrill—and the chaos—of trying to scale quickly in a market that moves at warp speed. When you're small and scrappy, every decision counts. But one challenge rises above the rest: how do you grow your team as fast as your vision?

The reality for small businesses, especially in emerging industries like space, is that the talent you need often costs more than you can afford. When you're on the launchpad of growth, hiring a full-time senior-level expert to help you navigate finance, marketing, technology, or operations can be out of reach. But what if you didn't need them full-time? What if you could rent brilliance by the hour?

That's where the real innovation begins.

I've been advocating for **fractional talent**—long before it was trendy. I used freelancers, consultants, partners, and even friends to piece together a "dream team" of partial contributors. It wasn't perfect, but it worked. And that's the origin story behind what we now call talent fractionalization: building scalable, expert-powered teams by leveraging fractional professionals for just the expertise you need, exactly when you need it.

In today's economy, fractionalization isn't just a strategy—it's a necessity. Whether it's tapping into a network of specialists via online platforms, collaborating with boutique consultancies, or using hybrid models like our Fortuna Elevate solution, small businesses now have the ability to assemble powerhouse teams without the overhead. In a world where agility is a competitive advantage, this model allows you to move like the Flash while your competitors are still lacing up their boots.

But there's another layer to scaling smart: purpose.

We've learned at Fortuna that people don't just work for a paycheck anymore. They work for purpose, for flexibility, for time. If you want to attract and retain great talent, you've got to lead with your "why." What difference are you making? What mission are you inviting them to be a part of? Small businesses can't always outpay the big players—but we can out-care, out-connect, and out-inspire. And that's often what matters most.

As the space sector grows, our hiring models must evolve with it. This is an industry that doesn't yet have strong feeder systems into the workforce. So, small businesses must do what we've always done best: grow our own. Find adjacent skill sets. Train them. Build your team like you'd build a rocket—piece by piece, with precision and creativity. Bite-sized roles. Project-based outcomes. Talent as a service. That's the future.

And if you're stuck, don't wait. Call someone who's been there. At Fortuna, we often say, "Want to hire a veteran tomorrow? Call us today." It's about creating access, speed, and scale for any mission-driven organization looking to grow.

The new space economy won't be built by the giants alone. It'll be shaped by nimble, resilient, mission-first businesses who know how to think differently, build creatively, and move boldly.

So here's to the small teams with big ideas. Let's launch.

Learn more about our fractional staffing solutions at https://gofortuna.com/elevate

FORTUNA

SFA PARTNER COLUMN:
Getting to Yes: How Little Place Labs is Putting Big Ideas and Innovation to Work for Defense

BY BOSCO LAI, CEO, LITTLE PLACE LABS

Innovation in defense technology has long been driven by large, established companies. However, a new wave of startups is proving that size is no limitation when it comes to big ideas. Little Place Labs (LPL) exemplifies this shift. As a company supported by AFWERX, LPL is at the forefront of advancing real-time space insights. By developing machine-learning applications that run directly on satellites, we enable real-time domain awareness across various environments, including vessel detection, airfield monitoring, and asset tracking. Our work highlights how edge computing can revolutionize surveillance and response times in defense operations, ensuring faster, more effective decision-making.

But breaking into the defense sector is no easy feat. From navigating acquisition processes to proving the operational value of emerging technologies, small businesses must overcome significant hurdles. Our journey with the Department of Defense (DoD) has been one of persistence, adaptability, and strategic partnerships - a true case of getting to yes.

Navigating the DoD's Defense Tech Gauntlet

For a small company, working with the DoD can feel like navigating a complex system of acquisition processes, funding mechanisms, and evolving mission priorities. Traditional defense procurement cycles often favor incumbents, making it difficult for emerging companies to break in. However, programs like AFWERX, SPACEWERX, SBIR (Small Business Innovation Research), and STRATFI/TACFI funding have provided pathways for companies to demonstrate capabilities in real-world scenarios.

Our journey in defense innovation was recently featured in The Wall Street Journal, highlighting the challenges and breakthroughs that startups face when bringing cutting-edge technology into the defense sector. One of the key lessons we have learned is that success requires more than just technical excellence - it demands deep engagement with the defense ecosystem and a strong network of mission-driven partners.

We have built valuable relationships with organizations that support defense innovation, such as Catalyst Campus, Decisive Point, Capital Factory, Techstars, Starburst. These groups, along with initiatives from the Space Force Association (SFA), Space Systems Command's (SSC) Front Door, the Defense Innovation Unit (DIU) and NSIN (National Security Innovation Network), are actively fostering collaborations that push the boundaries of what space missions can achieve. By working with these partners, we have gained critical insights into operational needs, technology integration, and transition pathways.

The evolving landscape of defense technology demands speed, adaptability, and mission alignment - qualities that small businesses like LPL bring to the table. By navigating this gauntlet strategically, we are proving that innovation in space and defense is no longer the sole domain of large primes but is being shaped by agile startups with bold ideas.

Leveraging Defense Expertise and Veterans

A key driver of our success has been our ability to tap into the expertise of defense veterans and experienced operators who deeply understand the challenges of national security. Innovation in defense is not just about technology - it is about passionately solving real problems for those on the ground, in the air, or in space.

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At LPL, we are proud to have David Braithwaite on board, a leader with extensive experience in military operations, intelligence processes, and national security. David brings firsthand operational knowledge that strengthens our ability to develop AI/ML-driven solutions tailored for defense applications. As David himself puts it:
"I want to use my knowledge of military operations, intelligence processes, and national security issues to develop LPL and our team to become the best provider of AI/ML solutions."

David's expertise bridges the gap between defense operations and next-generation technology, ensuring that our solutions are not only innovative but also mission-ready.

Beyond our internal team, we also benefit from the strategic guidance of Charlie McGillis and Ross Morrell, both retired U.S. Air Force Colonels with decades of leadership in national security, space operations, and defense technology. As advisors, they provide crucial insights on defense strategy, operational integration, and government partnerships, helping us navigate the complex landscape of defense innovation.

By leveraging veteran leadership, operational insight, and deep defense expertise, LPL ensures that our technology directly serves warfighter needs and makes real impact.

A Global Team Powering a Bold Vision

While our mission is deeply tied to U.S. national security, our approach to talent is global. Space is an inherently international domain, and we have embraced a diverse, globally distributed team to bring together the best minds in software engineering, aerospace, AI, and defense intelligence.

We carefully recruit talent from around the world, ensuring that we bring in the right expertise to drive innovation while remaining aligned with our mission. This approach allows us to leverage diverse perspectives and specialized skill sets, ensuring our solutions are adaptable, resilient, and effective for multi-domain, multinational defense applications.

At the same time, we remain focused on ensuring our team and technology are mission-aligned, working closely with partners and stakeholders who share our commitment to advancing national security and space capabilities. This balance enables us to stay at the cutting edge of innovation while meeting the needs of the USSF and allied defense organizations.

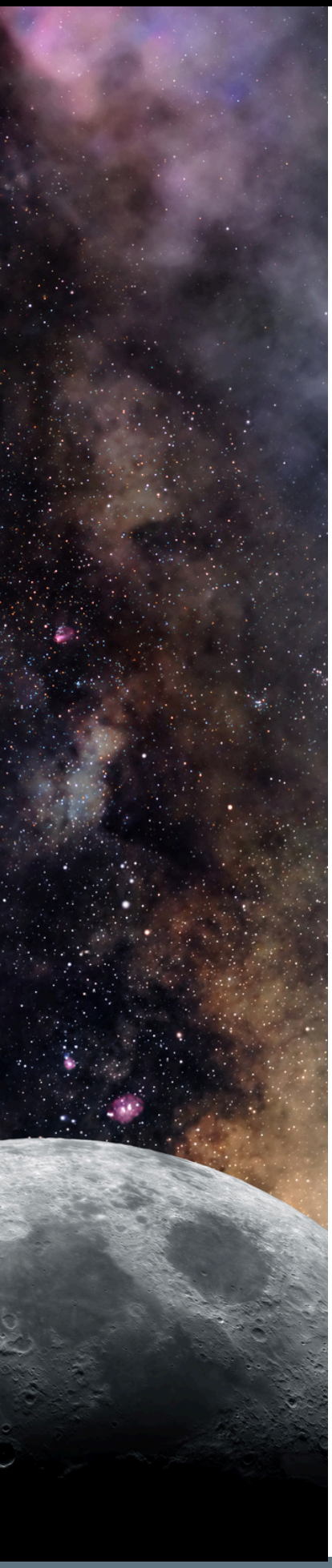
A North Star That Keeps Us Moving Forward

At LPL, our journey is fueled by a deep sense of purpose and mission-driven innovation. Our guiding principles reflect this commitment:

- Purpose: United by passion, we innovate with curiosity and fulfill with perseverance to shape a secure and brighter future for our Little Place - Earth, and beyond.
- Mission: Revolutionize space and aeronautics operations with intelligent systems that deliver real-time, mission-critical insights for national security and commercial sectors.
- Vision: A world where decision-makers confidently tackle global challenges by making informed, timely, and impactful decisions.

Pursuing this vision requires bold thinking, relentless problem-solving, and the courage to challenge legacy systems that no longer serve the needs of a rapidly evolving security landscape. While the path for small businesses in defense is not easy, we remain undeterred. We are here to go all the way, pushing the boundaries of what is possible in space-based intelligence.

The future of defense and space innovation is not just about scale - it is about speed, adaptability, and the ability to deliver real-world impact when it matters most. At Little Place Labs, we are committed to leading that charge.



Fatherly Advice

GUARDIAN CULTURE COLUMN

BY MSGT PAUL BOYENGA, USSF
SPACEPOWER MAGAZINE COLUMNIST

In the main hall of our home leading guests to the kitchen from the front door, my wife and I have a wooden slab engraved with the preamble to The Constitution. It's the centerpiece of what we call our "'Merica Wall"—surrounded by our service photos and those of our friends and family, spanning over 100 years of military service across five of the six branches. Besides the reminder of how important our country and defending it is, it's also a reminder of just how lucky we are to have the blessings we do as Americans. The circumstances, the timing, and the minds of those involved with crafting this nation all aligned at just the right times—and often with high risk—to create something ground-breaking and beautiful. Not only did our founding fathers persevere through the pains of a revolutionary war, but they persevered through the pains of a government in its infancy; and the intricacies of trial and error involving the balance of 13 states and a mix of beliefs and principles. It was no easy task, but they took chances in the face of ambiguity. And the result was an innovative approach to governance that leads the world as the most successful representation of freedom and democracy to this day. In terms of innovation, I'd say it ranks high on the success list.

Coincidentally, I spent the last week in Washington D.C. (with a trip to Pennsylvania to visit family sprinkled in) with a group of professionals that all specialize in, support, develop, and advocate for innovation. The purpose of our week-long cohort? Preparing for the 2025 Guardian Field Forum (GFF). As mentors for this year's forum, it is incumbent upon us to do our best in supporting innovative ideas in preparation for briefing the CSO and his "constellation" of senior leaders. It's not a task that we take lightly. The fact that we have all met prior to the next forum has been the result of innovating on the idea of the actual field forum itself, iteratively since its inception 3 years ago—and the possibility of such rapid and well-endorsed change is certainly unique to our branch of service. The CSO has made it a directed imperative to support grass-roots innovations and has them briefed to him directly once a year—that's not normal, but we've done it and plan to continue.

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It's also not normal to establish and test rapid capabilities in a domain that has historically taken decades of prep-work to plan for and test—but we've done that, too. Last year, Victus Nox showed us that we can deliver and launch spacecraft in a matter of months with hours of prep. That is unheard of; but we're doing it again—twice—in 2026 with Victus Sirgo and Victus Salo. In other words, we have seen our innovative progress and raised the bar to innovate further.

As the Space Force stands up their recruiting efforts, we're taking an innovative approach to that, too. Efforts to establish a recruiting command are underway, and some of our first graduates of recruiting training are traveling to their first recruiting assignments this summer. As they do, they are looking at ways to leverage social media, connectedness, and talent management to search and scout for the sharpest minds out there to join our ranks. Gone are the days of waiting around for people to walk in the door and grab a pamphlet; our recruiters will be actively scouting for talent and deliberately approaching future Guardians with opportunities to serve.

And we can't talk about innovation without mentioning the groundbreaking Personnel Management Act (PMA). When the "Guardian Ideal" was published in 2021, it mentioned part time positions and flexible options for retaining service members on terms best suited to their circumstances and careers. I remember reading that and thinking "Yea…IDEALLY for sure; maybe 50 years from now." Well, I couldn't be happier to be wrong. The PMA was signed into law last year, and there have already been boards held for the transfers of Airmen Reservists to join our ranks. It's going to take time to get to a place where active-duty Guardians are working part-time positions, but it's in the works. The innovation continues.

Among all these new and exciting changes, there does exist some friction though. As most of our force is comprised of prior service members from across our sister services, the change comes at breakneck speed compared to the slow churn they may be used to. I've had the pleasure of speaking to swaths of ISTs about the fervor of building and innovating since I transferred from the Army two and a half years ago, and these exchanges are almost always twofold. They start with an excitement about all the improvements to their service, and after a handful of questions usually end the same way. The questions typically revolve around where information exists, what programs exist, and who people can reach out to for more guidance and clarity around certain admin functions, career roadmaps, or even what forms to use. But the answers aren't always clear. Sometimes the answer is "right now we're doing X, but they are working on Y and Z." Sometimes the answer is "We don't have something for that yet, but someone is working on it", and sometimes the answer is just a plain "I don't know." Unfortunately, the cost of building and innovating while simultaneously conducting critical missions to secure dominance in our domain is often paid in some ambiguity here and there. However, most of these conversations end the same way as well—which is with the stark remembrance that our service is merely five years old. That puts the achievements we've witnessed already into a much more impressive frame of light and eases the worry about some of the accomplishments that are still underway.

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I'm reminded of a conversation I had with Captain Wong—one of our Mission Planning Cell leads and a prior-service Airman—about innovation and change fatigue. We were musing about the idea of wearing our blues instead of combat uniforms to work unless we were committed combat forces, and I made a comment about the possible backlash from Guardians if they found out I pitched it, and it was accepted. It was all in jest for good laughs, but then he said this:

"Honestly, being in the Space Force requires an acceptance of change, and an openness to trying new things. They may not be great ideas, but we need to be open to trying them and learning what works and what doesn't if we're going to continue to grow and develop as a force. If it's not a good idea—oh well. At least we tried it and now we know. There is no innovation without taking chances."

Couldn't have said it better myself.

Between the GFF, the PMA, the Victus mission series and more, innovation is at the heart of our conception and our first steps. It's engrained into our service by ideals supported by action and baked into our values through the courage of our Guardians to both bring forward and to support innovative ideas and missions. Innovation is more than just a buzzword for our organization—it's part of our DNA and permeates every echelon of our culture. To embrace it as a pillar of our success, we must embrace the patience required to exercise our innovation as a principle and be open to failing forward; we must accept risk and persist through trial and error. We mustn't limit our minds or our mindsets—and in the face of ambiguity or uncertainty, we must be creative.

In other words, like Captain Wong said himself: "There is no innovation without taking chances." I think our founding fathers would agree.

SpaceX launched the Fram2 mission, a private human spaceflight mission, into a polar orbit, March 31, 2025
Photograph by: Brandon Lindner - lindnerpics.etsy.com

THE RELENTLESS PURSUIT OF GREATNESS: HOW GRIT AND PERSISTENCE FUEL INNOVATION

BY DR MELISSA PATTON, MP, PATTON CONSULTING GROUP | CSO, POINT SOLUTIONS GROUP

I had the incredible opportunity to earn a scholarship to run track in college. Yes, believe it or not they paid me to run around in circles, chasing absolutely nothing!

I sometimes wish I could forget that one particularly awful day in my junior year. I knew better! I had failed my history exam, got into a fight with my roommate, and to add insult to injury, I was exhausted from traveling for track the weekend before. I needed a break! I made the ridiculous decision to share this with my coach.

She looked at me as if she was watching a Dave Chapelle comedy sketch. You see my coach, Natasha Kaiser-Brown, competed in the 1992 Barcelona Olympic games, she was the GOAT in the 90's, and now, standing in front of her was one of her top 400 pupils complaining that she was tired, and wanting to go back to the dorms. Dripping in sarcasm, she looked at me and said, "Childs" (my nickname), right now, at this exact moment, Deb Cordner (my rival) from the University of Northern Iowa is practicing hard, and this weekend at the UNI open, she will beat you. Winners are persistent, gritty, and daily they push past their threshold of pain, get your *&$ on the track for your repeat 400's (just kidding I threw that part in there, she would never say that)!

Although I was extremely irritated with my coach at the time, she had a point. The heart of a great leader comes from a place of persistence, motivation, and drive – when no one is looking. And in more times than not, the person who trains harder, persists longer, and dedicates themselves to getting better every day, envelopes a formula for greatness.

The qualities of a great athlete mirror the heart of a small business owner. Innovation is often borne when no one is watching - behind closed doors, tirelessly iterating, often without a budget. When you're tired, you put in the work, when you are underappreciated, you put in the work, when you want to give up, you put in the work. Big ideas happen, but only after you have failed repeatedly. Failure only tests your resilience and grit. How you get back up is what matters, not how you fall.

There are countless stories of small business owners that have paved the way, reminding us that success is possible, but only with humble beginnings. And that innovation takes time, creativity is not promised, and calculated risks are mandatory. One of my favorite stories is the story of former Blue Origin engineers Austin Link and Dr. Trevor Bennett, who founded Starfish Space with the ambitious goal of developing small satellites capable of capturing and maneuvering other objects in orbit. Their vision was to create affordable and efficient on-orbit services, such as satellite life extension and debris removal, to address the growing need for sustainable space operations.

Starfish Space was awarded a Small Business Innovation Research (SBIR) contract by the U.S. Space Force to support the development of autonomous software for satellite proximity operations and docking. The first iteration did not come without challenges, but they were able to take their potential failure and use it as motivation to solve problems efficiently and effectively.

What's interesting about most startups is that even though many of them start out small, their innovative mind set, and risk-taking abilities equate to big ideas, because they have no other choice. As a startup, Starfish Space attracted a lot of attention, and they raised significant funding, over 37 million from the US Space Force to develop and launch.

Small businesses with big ideas CAN drive innovation and create solutions to critical problems. With just a little tenacity and determination anything is possible.

SFA SPACE PROFESSIONAL SOCIETY COLUMN:

BY SOPHIA 'SKIBA' SKIBA, SPACE PROFESSIONAL SOCIETY DIRECTOR

America prides itself on its fresh innovation driven by a nation of ever increasing entrepreneurs, and the space sector is looking for any new talent it can get to continue giving America its edge in space. Arizona State University is one of the top schools in the state of Arizona and proudly states that it is one of the top schools in the nation for innovation. I interviewed Josh Guttilla, the founder of the Space Business Association, and CEO of Nova-six, and how he intertwined innovation with space on ASU's campus.

What is the "Space Business Association" (SBA) and why did you choose the business approach?

Guttilla: The Space Business Association (SBA) is an entrepreneurship and networking organization dedicated to empowering students pursuing careers in the rapidly evolving commercial space industry. I chose the business approach to space, because commercialization has transformed space from an exclusively government field into a thriving market full of entrepreneurial opportunities and innovation.

The inspiration for founding SBA stemmed from the SES 494: Space Business & Entrepreneurs course taught by Jim Bell, Craig Hargrove, Fred Von Graf, and Scott Smas. This course introduced me to the vast potential of business opportunities within the commercial space sector, sparking my interest in exploring further.

Motivated by this experience, I founded the Space Business Association to equip other passionate students with the insights, professional networks, and entrepreneurial tools needed to successfully navigate and excel in this exciting industry!

What does innovation look like to college students, and how does SBA pursue innovation?

Guttilla: Innovation among college students manifests in numerous ways, from entrepreneurial ventures into research projects, particularly within the space industry. ASU students exemplify space innovation through groundbreaking projects; such as developing a new camera for a Mars rover or launching satellites to explore metal asteroids.
Recognizing these incredible opportunities, the SBA actively promotes innovation by connecting students with industry professionals, entrepreneurs, and experts who encourage bold thinking and novel solutions.

How have you seen the SBA impact the lives of college students?

Guttilla: One significant example of SBA's impact is helping students secure internships and job placements by connecting them directly with industry leaders and mentors. These connections have allowed students to build valuable professional relationships and gain practical experience. As a result, our students have better developed entrepreneurial skills, allowing them to be better prepared for future careers in the commercial space sector.

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How are the mission statements of SBA and the USSF compatible?

Guttilla: The missions of SBA and the USSF are closely aligned, especially in their shared dedication to innovation, wide-scale collaboration, and the development of talent within the space industry. By promoting an entrepreneurial mindset and establishing strong support for America's space sector in upcoming space professionals, the SBA supports the USSF's broader goals of cultivating a skilled workforce in ensuring the continued success of America in the space domain.

When you passed on the SBA to others, how did you know that you left it in capable hands?

Guttilla: When I passed the SBA onto new leadership, I felt confident it was in capable hands due to their demonstrated commitment and vision for the organization's future. One of my successors, Amrit Singh Johal, developed a new strategy to host larger guest speaker panels, moving away from the bi-weekly single speaker format that I initially used. His fresh approaches give me confidence in the SBA's new leadership to innovate and prosper independently.

Joshua Guttilla, and the other members I've met in the Space Business Association display student's eagerness to not just get their foot in the door with leaders in space, but actively want to support it. No one told Guttilla to start a program, he simply did it of his own conviction. The Space Business Association has fostered an environment that has allowed students to freely pursue their interests in the space sector, ensuring longevity as now the program lives on past Guttilla in the hands of new students.

Innovation is America's edge, and college students are more than ready to support the space sector in any way they can.

THOUGHT LEADER OP-ED:

How To Innovate Your Company to Death (or Not!)

BY JEFF KRUKIN – PRINCIPAL & CO-FOUNDER, EARTH SPACE COMMERCE ADVISORS

Innovation is a double-edged sword… and both sides can cut deeply into your company's fortunes. Innovation can be the guidepost that leads to revenue growth, or it can be the siren song that draws you to the shoals of bad decisions that often come from desperation.

In one form or another, you've likely been told to innovate or die. Especially now, during a time of massive political and economic turmoil combined with geopolitical tensions that are shaping how the Space Force will operate, and how its budget will be spent.

But what if you overdo it? What if you focus so much on innovation that you move too far from your company's core business and capabilities? Or, and here's that double-edged sword again, what if you simply stay the course because it's familiar? To those who would avoid the difficult decisions that come with innovation, I suggest remembering the words of retired US Army General Eric Shinseki: "If you dislike change, you're going to dislike irrelevance even more." Simply put, if you want your company to do more than survive, you have no choice.

If you're working on your business plan for a new startup, keep it flexible enough to anticipate and adapt to technology and marketplace changes that you can't even imagine right now. If you're working on your investor pitch deck, along with demonstrating your understanding of the big problem that you're going to solve, you must also convey your awareness that technologies and markets will change, and that you and your team have the experience and talents to adapt and innovate.

A Tale of Two Startups

Innovating Your Company to Death

Ok, so you've been told that innovation is imperative. And, yes, you can be too innovative and lose focus and fail, and that's the story of one of the failed startups I worked with during my early entrepreneurial forays.

The Founder of this failed startup saw an emerging market and created a business plan that required the blending of disparate technologies, some mature, some not so mature. It was a solid, well-conceived plan… that did not survive contact with the battlefield of constantly changing technology. The Founder was blessed with an agile technical mind, and a deep love of technology. Unfortunately, it was this love of technology, rather than attention to the target problem and target market, that drove the Founder's decisions. Every time he discovered a new not-so-mature technology that could fit into his product development plan, he altered the plan even if the new technology wasn't really necessary to tackle that first target problem. The shiny glint of new technology was his siren song, and he couldn't resist. Even as we kept delaying release of the minimal viable product, he would keep finding and adding new technology.

The failure came shortly after meeting in Manhattan with the representative of an investor who was very interested in writing a big check, and it was our first real possibility of seed funding. As you can imagine, we were super excited! We were given one week to prepare our final pitch. It never happened. Even with this deadline, even with the real prospect of funding, the Founder could not stay focused on the task at hand. Instead, he continued evaluating new technologies so he could add new capabilities to the product. The week passed, and we missed our opportunity. And the company perished.

EARTH SPACE
COMMERCE ADVISORS, LLC

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Innovating Your Company for Growth

Since 2019, I have been the fractional Vice President for Business Growth at Orbital Transports, Inc. (www.orbitaltransports.com), a space logistics company providing supply chain, and mission planning and execution services for satellite missions. Since its inception, the company's business model has focused on mission planning and execution, while also positioning itself to tackle supply chain problems by first establishing its SmallSat Catalog about three years ago. Early last year, the CEO and his team began developing a two-pronged strategy to attack supply chain problems by 1) developing a portfolio of managed supply chain services, and 2) evolving the SmallSat Catalog into a full-blown B2B e-commerce platform for suppliers and buyers.

What makes this startup different from the one that failed? In a word… leadership. The Founder & CEO of the failed startup rarely listened to his team, let ego get in the way, and valued his technical knowledge above all else. The Founder & CEO of Orbital Transports continuously engages and listens to his team, evidences no ego, and combines both technical and business experience and skills.

Perhaps the most important difference is which side of that double-edged sword each Founder chose to wield. The failed Founder could not stop innovating, whereas the other Founder is keeping his innovation within the company's core capabilities. And that will make a difference when he pitches to investors.

PARTNER ARTICLE:
TacSRT: Program Overview

BY TACSRT STAFF

The USSF Space Systems Command's (SSC) Tactical Surveillance, Reconnaissance, and Tracking Program (TacSRT) is a Space Force program aimed at rapidly delivering unclassified, commercial data and analytic products to Combatant Commands (CCMDs) via Space Force Service components. It is an inspiring mission area for the nation that allows for rapid and high-powered commercial analytics, in the form of operational planning products (OPPs), directly into the hands of warfighters.

OPPs provide rapid, unclassified information enabling a highly competitive and cost-effective acquisition process. Currently, TacSRT has leveraged commercial data analytics delivering 470 OPPs to 7 CCMDs and supported approximately 116 requests.

Rapid, Releasable, Unclassified Solutions to Global Challenges

In May 2024, a devastating flood hit Brazil -- endangering the U.S. Consular General, staff, and their families. In under 24 hours, a new evacuation route had been developed, leading to the safe evacuation of all U.S. personnel and their families.1

The speedy response was made possible by TacSRT using space-derived commercially and publicly available information that was unclassified and releasable providing timely products to Space Force Component Commands. Uniquely, it simplified the sharing of findings with allies and international partners while ensuring no duplication of efforts. The speed with which the program operates is delivering information in 72 hours or less. This fact uniquely positions TacSRT to help address global challenges that require rapid responses.

In early 2024, TacSRT provided near real-time tracking on wildfires across South America. Leveraging commercial analytics and satellite images, responders could understand the fire's spread, identify high-risk areas, and monitor road conditions. TacSRT worked with over a dozen commercial vendors, tracking 91 wildfires in 45 locations.

TacSRT TAP Lab

The TacSRT Tools, Applications, and Processing (TAP) Lab provides an innovative environment for collaboration between the commercial space industry, academia and government organizations. The TacSRT lab builds connections with potential industry vendors, screening their capabilities and onboarding them into the Global Data Marketplace (GDM). Ultimately, the lab works to grow TacSRT's framework, ensuring delivery of high-quality products tailored to meet the urgent and emergent needs of combatant commands.

The lab is one of 18 government teams partnered within the Innovation Hub to advance their technology goals. The Innovation Hub (IHub) is a Virginia Tech Applied Research Corporation (VT-ARC) powered collaboration center located in Colorado Springs, Colorado enabled by a partnership between SSC and the Air Force Office of Scientific Research.

The TacSRT TAP Lab recently hosted an industry day at the IHub, inviting interested companies to learn more about TacSRT's mission needs and present their capabilities over the two-day event. Companies that demonstrated innovative products with potential applications to the TacSRT mission are now onboarding into the GDM and formalizing partnerships with the TacSRT program.

Global Market Place Utility

TacSRT looks to the commercial space industry and emerging analytics providers through the GDM to garner information on the challenges facing the U.S. and its allies. The GDM serves as a platform for the government to connect warfighters to commercially available data in rapid and shorter timelines. Maj. Ziqun He, one of the leading members of the TacSRT team, said the Global Data Marketplace is the secret that can help vendors get on contract quickly.

"TacSRT responds to diverse missions such as status reporting, change analysis, object typing, violent extremist organization activities, humanitarian and disaster relief, and illegal resource extraction monitoring," said He. "Onboarding commercial vendors through the GDM allows for timely and short-term contracts, allowing TacSRT to fill information gaps and provide comprehensive insights that is responsive and relevant to mission need and speed."

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Growth Opportunities

TacSRT is looking for industry support in two main areas. First, becoming a superior source for commercial, space-based information and delivering the highest quality of OPPs to combatant commands. Through its TAP Lab, TacSRT aims to enable streamlined and fast assessments to new data sources and analytics, refining existing techniques, and developing new capabilities while ensuring there is no duplication of efforts with other DoD-led commercial analytic programs. The lab leverages state-of-the-art commercial technology and analytics, fostered through relationships with industry, academia, and other government agencies. At future events, vendors can demonstrate their technology's maturity for an opportunity to be on the GDM.

Secondly, a big challenge in optimizing its workflow is turning a request into a workable problem. TacSRT's goal is to complement the current human workflow with automated systems and applications, allowing the TacSRT program to improve its speed and efficiency.

Finding Out What We Don't Know

TacSRT TAP Lab continues to grow in 2025 and so will its ability to rapidly support the U.S. and its allies. Expanding industry partnerships will play a significant role in this effort. Government and industry will continue to collaborate on global challenges and the next opportunity to do so will be at the Warfighter Engagement Forum scheduled for mid to late spring this year.

SR TAP LAB

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Spacepower Radio Show
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Stay tuned for the SFA Spacepower Hour on KUHSDenver.com 11am-12pm (MST) 1st Friday each month!
The Spacepower Podcast is broadcast each week on Spotify: https://ussfa.org/news-publications/

SPACE FORCE ASSOCIATION

SpaceX Falcon 9 rocket launched Intuitive Machines' IM-2 lunar lander, Athena, from Launch Complex 39A at NASA's Kennedy Space Center, February 26, 2025
Photographs by: Brandon Lindner - lindnerpics.etsy.com