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ALLVIN'S LEGACY 06

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Dignitaries and senior officials line up before a trip in front of C-32A and C-40 aircraft at Joint Base Andrews, Md. See "Special Mission, Special Fleet," p. 40.

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A Russian Tu-95 bomber is intercepted over the Bering Sea by an American F-16 after crossing into the Alaskan Air Defense Identification Zone on July 22, 2025. Rising concern about missiles and planes attacking across the Arctic is driving increased investment.

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Air & Space Forces Magazine (ISSN 2834-8206) November/December 2025 (Vol. 108, Nos. 11 and 12) is published **bi-monthly** in January/February, March/April, May/June, July/August, September/October, and November/December by the Air & Space Forces Association, 1201 S. Joyce St. C6, Arlington, VA 22202-2066. Phone (703) 247-5800. Periodical postage paid at Arlington, Va., and additional mailing offices. **Membership Rate:** $50 per year; $35 e-Membership; $125 for three-year membership. **Subscription Rate:** $50 per year; $29 per year additional for postage to foreign addresses (except Canada and Mexico, which are $10 per year additional). Regular issues $8 each. Air &. Space Forces Almanac issue $18 each. **Change of address** requires four weeks' notice. Please include mailing label. **POSTMASTER:** Send changes of address to Air & Space Forces Association, 1201 S. Joyce St., C6, Arlington, VA 22202-2066. Publisher assumes no responsibility for unsolicited material.

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GUEST EDITORIAL

By Gen. Merrill A. McPeak, USAF (Ret.)

More Flying Hours: Build Skills & Loyalty

Master Sgt. Luke Olson

America's Air Force today is smaller and older than it was in my day, but what worries me more than size or age is just how ready we are to fly, fight, and win in a future war.

I graduated from flying school and got my wings in January 1959. From then until I left Vietnam in November 1969, I logged 3,138.4 flying hours in the two principal types of aircraft I flew, the F-100 and F-104—an average of 23.9 hours per month.

It is true that this 131-month period included a two-year tour with the Thunderbirds and 11 months in combat, both high-intensity flying jobs. But it also included 16 months on the staff of the Third Air Force, the momentum lost in transitioning back-and-forth between the two aircraft types four times, downtime associated with six PCS moves, and time spent in various schools—jump school, half a dozen survival schools, forward air controller school—as well as leave and so forth.

I am worried about today's force. We're not flying enough. Increasing flying hours for combat pilots should be a top priority.

In those days, we aimed to get 20 hours a month, and I was able to beat that average. For me, the end result was remarkable. For one thing, I loved the life; I decided to make the Air Force a career. More importantly, you could say I felt quite at home in the air.

There is a certain attitude that goes with being a combat pilot. The fight starts at the bottom of the ladder. From then until the forms are filled out, nobody is better than you—no team is better than you and your wingman. It's the other guy—the whole other side—that's in trouble. In my opinion, this is a winning attitude. The seed for it is planted during checkout, in academics, and daily briefings. It can be cultivated in the simulator, watered at beer call, and nourished during time spent hanging around the ops desk hoping someone else will cancel. But the combat pilot attitude matures into a way of life in the cockpit—flying real hours in a real airplane, face-to-face with real things that happen in real air.

I am worried about today's force. We're not flying enough. Maybe today's fighter jock is better than my generation and no longer needs 20 hours in the cockpit every month. Maybe. But I don't think single-digit flying hours per month is the right answer for anybody. We used to ridicule our Soviet-era opposition when they were flying at about our present rate. Grapes, waiting to be plucked.

In my view, increasing flying hours for combat pilots should be a top priority. I can't say it's number one, or number two, or number six, or whatever, because we need to fix some other very urgent problems, particularly air base hardening and defense. But the flying hour program must surely be among the handful of highest priority matters our Air Force should fix quickly.

If all else fails, we can use our imaginations to help solve the problem. If the F-22 or the F-35 simply cannot produce enough hours, buy and assign gliders or trainers like the T-6 to each fighter squadron. Do aerobatics, do spin training, hooded takeoffs, and landings. Time spent in the air flying anything builds airmanship and confidence. Better still, it's fun. It glues people to the organization, as it did me.

I'm all for increasing the number of pilots coming out of flying school. But this is an example of how competing priorities should be ranked: First, produce a flying hour program that ensures the excellence of the existing force. Then let's talk about increasing pilot production. Better a small Air Force that can be relied on than a big one that cannot.

***Gen. Merrill A. "Tony" McPeak** was the 14th Chief of Staff of the U.S. Air Force. Over the course of a 37-year career, he completed more than 6,000 flying hours in aircraft including the F-4, F-15, F-16, F-100, F-104, and F- 111.*

WARFARE SYMPOSIUM

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LETTERS

Blending In

I think the U.S. military is supreme when it comes to large drones and CCAs.

I think the U.S. military is missing the boat when it comes to small drones. I think small drones have made the tank as obsolete as the battleship was made obsolete by aircraft.

The U.S. has an Air Force, Army, Navy. Ukraine has an air force, army and unmanned Force … just a different way of thinking.

I really think the USAF air bases are not adequately protected against a small drone attack such as the Ukrainian Spider Web attack. The first thing I think we should do is some passive defense. If planes aren't kept in hangars, we should at least have some netting or fencing around them. With fiber optic drones, we can't count on EW to do the job 100 percent of the time.

William Thayer
San Diego

Pros and Cons

Why don't we charge each foreign country the total investment the U.S. spends to train these pilots [See, "Air Force Looks to Cut Squadrons that Advise Foreign Militaries," Daily Report, Sept. 2]. It should be at least the $8 million the program is cutting to save money. If so, problem solved!

Plus, these foreign countries won't go to Russia or China. It's a win-win for the USAF and U.S.' future worldwide security and air superiority.

Mike Dean
Gordonville, Pa.

Watchmen

The article "Experts Warn of Pacific Threats" [World, July/August, p. 23] reads like it was written in the 1980s.

I was assigned for 20 years of Active duty and 24 more years as a DAF civilian in the Pacific at all levels of command from PACOM, PACAF, NAF and Wing, including several joint and Air Force intelligence agencies during the 1960s until I retired in 2012.

Besides being an all-source intelligence threat analyst, targeting officer, geospatial analyst, cartographics officer and HUMINT (human intelligence) collector, I provided inputs, if not completely wrote, the related annexes for all levels of defense operations, support and execution plans. I also provided inputs to many related joint and Air Force regulations and doctrines.

The threats addressed in the article have been well known since the 1960s and most have been considered, if not resolved, by alternate solutions. I believe we are beyond considering passive defenses, hardening shelters, and alternate basing in response to these threats.

As for base defense, force protection and anti-terrorism, the Air Force needs an active HUMINT function that can surveil potential threats around the bases through human sources, radio and TV communications, and other social media activities.

From my experience in working base defenses, it is often determined that local nationals find out about potential base threats through word of mouth which are reflected in reduced attendance of base workers.

Finally, we should be performing 24/7 surveillance of enemy missile and drone threat locations. Local overseas-based commanders should be given authority to launch tactical counter missile/drone attacks on warning of imminent enemy war operations. National-level commanders in CONUS should be given authority to launch global strategic assets upon notification of enemy attacks on U.S. forces in overseas locations.

Simple as that. Enemy commanders should be forewarned not to cause false impressions of attacks, or suffer the potential consequences.

Lt. Col. Russel A. Noguchi,
USAF (Ret.)
Pearl City, Hawaii

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Years of Training

I respectfully disagree with the Secretary of Defense [regarding downgrading USAFE and NATO Air Commander jobs to 3-stars], as the USAFE Commander was always a 4-star slot as he/she is also the Commander Allied Air Forces Europe, and that Africa was added as this is way too much responsibility for a lieutenant general. I do agree with what he had to say to bring the service to the way it used to be before all the changes in the '90s which I went through.

We had way too many commanders, first sergeants, and supervisors not meeting standards yet they received many privileges—as I had to work hard and fight to go to school. I have seen many get away with actions that should have been given punishment.

SSgt. Dean R. Martinez,
USAF (Ret.)
Fort Mohave, Ariz.

Too Many Cooks

I'm a retired Command Chief for the Air Force Reserve Command and read with interest David Roza's article about "Airmen Injured on Duty—Why Isn't the Air Force Paying?" [September/October, p. 52]. The Air Force Reserve and Air National Guard are handicapped for Veterans Administration (VA) and other service-connected issues because their unique medical personnel records are held at their unit of assignment. Our Active-duty colleagues have a Central Personnel System for medical records.

When I applied for VA disability, I learned that as a Reserve or Guard member, if I was treated when away from home station my record of that visit was not forwarded to my unit of record in the Air Force Reserve. I have a copy of a VA letter that denied my Agent Orange disability because "I was on Active duty for training orders." It took me several years of persistence and congressional help to get that approved.

In this digital age, I'm not sure why we're not "Total Force" with one central depository for all Air Force organizations, Active duty, Reserve, and National Guard. If we are "total" associate or otherwise affiliated, one central location would make more sense for all medical and personnel records.

Command CMSgt. Richard E. Russell,
USAF (Ret.)
Holt, Fla.

Sticky Landing

Still another unusual aspect of U-2 operations [See, "World: Last Hurrah for the Storied U-2," September/October, p. 32] was flying from aircraft carriers. Even with a maximum range of some 3,000 miles, there were some areas of interest to the U.S. Intelligence Community that could not be reached by U-2s flying from "safe" land bases. Accordingly, in mid-1963 the Central Intelligence Agency initiated Project Whale Tale to adapt the U-2 for carrier operation.

Subsequently, several U-2s fitted with arresting hooks flew several flights from aircraft carriers in addition to one operational mission: The only operational U-2 carrier mission—Operation Seeker—occurred in May 1964, when the USS Ranger launched one or possibly two U-2G spyplanes to monitor the French nuclear tests at Murora Atoll in French Polynesia.

The U-2G photographs indicated that the French would be ready for full-scale production of nuclear weapons within a year.

Norman Polmar
Author, "Spyplane: The U-2 History Declassified"
Alexandria, Va.

Courtesy of Norman Polmar

A U.S. Navy U-2 sitting on an aircraft carrier flight deck, circa 1960s.

Jud McCrehin,

Chief of Staff, Gen. David W. Allvin brought a unique portfolio of experience to his role, including experience in transport, test, policy, training, operations, and working with allies and partners.

Allvin Departs as Air Force Chief

Reflections on a 39-year career.

By Chris Gordon

Gen. David W. Allvin completed two years as Chief of Staff, half the statutory tour length, but long enough, he says, to have made a mark on the Air Force.

"We can't always pick when we're asked to lead. We can't always pick when we're asked to leave," Allvin said, diplomatically pushing aside the central question of his tenure and abrupt retirement, announced unexpectedly in August. "But we do have control over everything in between."

Some of Allvin's initiatives have already been cast aside, but key decisions during his tenure promise breakthrough capability in the future. Allvin secured the White House's backing for the stealthy F-47 Next Generation Air Dominance fighter, which President Donald Trump touted as Allvin stood beside him in the Oval Office, and he designated the service's initial Collaborative Combat Aircraft (CCA), the YFQ-42 and YFQ-44, as fighters, the first uncrewed aircraft designated with an "F."

Those two aircraft will prove out the human-machine teaming that underpins much of the Air Force's future operating concept.

"I walked out of there feeling as though the Air Force had done well and that this was definitely a step in the direction we needed to go."
—Former Air Force Chief of Staff Gen. David Allvin

Allvin's effort to de-emphasize major commands and centralize requirements authority in an Integrated Capabilities Command in Washington is dead, having withered under scrutiny from other four-stars and the new the Secretary of the Air Force Troy Meink, who dispensed with the provisional command in October. The fate of "deployable combat wings," a new rotational model, remains a work in progress. And the renaming of Air Force Education and Training Command to "Airman Development Command" is not going to happen.

All that said, Allvin sees progress coming from his time as Chief and the contributions he made over the decade prior, when he was a little-known Pentagon insider and a very quiet Vice Chief of Staff under his predecessor, Gen. Charles Q. Brown Jr. When Brown was selected by then-President Joe Biden to become Chairman of the Joint Chiefs of Staff, it cleared the path for Allvin to succeed him, an unlikely selection as the first non-fighter pilot to be Chief since Gen. Norton A. Schwartz in 2012, and only the second since the early 1980s.

Allvin's retirement ceremony was held Oct. 10, on

a mild Friday afternoon at Joint Base Andrews, Md., presided over by Brown's successor as Chairman, Gen. Dan Caine, at the same hangar in which Allvin ascended to the Chief's job at a ceremony led by Brown, who was dismissed as Chairman by Defense Secretary Pete Hegseth in February.

Allvin has remained in office, however, providing continuity until Gen. Kenneth Wilsbach can be confirmed as his successor.

His background is atypical. He began his career flying airlift missions, became a test pilot and mobility commander, then spent a decade as a strategist and planner both in the Pentagon and in Europe.

Allvin entered test pilot school in 1993. His four years as a test pilot included a hair-raising episode in a C-130J Super Hercules.

"I found myself in a Herc, in over 90 degrees of bank, and going at about a 30-degree per second roll rate. And I'm just like, 'This is not what this is designed to do,'" he recalled. Allvin recovered the plane but considered the incident a wake up. "We had more surprises in the C-130J than we should have." He was testing how the C-130J operated during a stall. "In a regular C-130, it stalls beautifully. All the drag comes out. It drops. You can push the power forward. You fly out of it. It's like a dream. In the C-130J, though, because of the change in the geometry of the propellers and the way that it flows over the wings, it's a squirrelly sort of stall. I was testing slowing down, slowing down, putting in the right control surfaces. The way you do that is you still try and maintain wings level. Because of the way that the propellers flowed, the flow came over the wings. One wing stalls slowly, but before the other one. So you're trying to fight the one wing from stalling, and then the other one just snaps. So I was doing that, I was maintaining controls, watching all the instruments, and then it just went the other way."

Testing the then brand-new C-17 in the 1990s, Allvin learned the Army was concerned that paratroopers would face greater risks from the new jet than from legacy C-141s.

"When we videoed it, there were a couple of times where … [paratroopers] came together and they bumped chutes, and one time they crossed chutes. And so that becomes dangerous. And so the Army safety two-star said, 'We're not doing the C-17.'"

"It was almost dead," Allvin said. But the issue was ultimately resolved in what amounted to a fly-off.

"So we went out to Yuma and did a test, same air, same day, same troopers, and we sort of flew around, and the data showed that there was no statistically significant difference between the number of close calls, bumps, or anything between the C-17 and the C-141," Allvin recalled. "We went through all sorts of machinations with changing deck angles, changing the way that they jump, all these sorts of things, and finally adapted it and got it on the right path."

Today, the Air Force's 222 C-17s are in constant demand, perhaps the Air Force's most versatile aircraft, used for everything from humanitarian airdrops and delivering military aid to occasionally transporting the Secretary of Defense.

Test pilot training familiarized the future Chief with the Air Force's other aircraft and missions. At test pilot school, the lines blur. "There's one test pilot school curriculum, and it's mostly fighter-centric."

He gained further skills at what is now known as Air University's School of Advanced Air & Space Studies.

"I was supposed to be learning about airpower history and theory. More than anything, I learned how to make an argument," Allvin said. "I learned how to do critical thinking. I learned how to understand the debate, what my weaknesses are … how to make an argument and think critically."

On 9/11, he was in command of the 905th Air Refueling Squadron at Grand Forks Air Force Base, N.D., scrambling tankers to support fighters responding to al Qaeda's terrorist attacks in New York and Washington.

A decade later he was in Afghanistan, as the head of the NATO Air Training Command from 2010-2011.

"The language barrier is there," Allvin said of his time in Afghanistan. "Then there's the aptitude, and then there's the

Airman 1st Class Cody Mott

As Air Force Chief, Allvin displayed a deft touch with Airmen. Many of the changes he championed with former Secretary of the Air Force Frank Kendall did not resonate as well with senior officers, however.

discipline."

Official government oversight reports criticized U.S. policy for making the Afghan Air Force (AAF) overly reliant on the U.S. military and Western contractors for maintenance. The Special Inspector General for Afghanistan Reconstruction criticized the approach to equipping the Afghans and the slow pace of progress. By 2011, more than 30 coalition partners were participating in the AAF train-and-advise mission, and Afghan pilots hit several training milestones. Even so, the DOD noted the still-fledgling nature of the AAF, whose entire force was rated as "established but not operational," one report stated.

When American maintainers left the country in mid-2021, the Afghans struggled to keep U.S.-provided UH-60 Black Hawk helicopters airborne.

Allvin saw the gap between what the Afghans wanted and what they could do. "The leadership values the capabilities more than what they might bring to a national air force. There was just a culture clash," Allvin said. In the midst of his tenure, an Afghan Air Force officer turned on his helpers, and shot and killed nine Americans—eight Airmen and a contractor.

Returning to the Pentagon, Allvin was drafted to work on a vision for the future of the Air Force for then-Chief of Staff Gen. Mark Welsh. The result was "The Air Force Future Operating Concept: A View of the Air Force in 2035."

"We started sort of mapping out what we thought the future should be. ... This is circa 2015, right in the middle of, still, a Global War on Terrorism ... and then it's going to be about ISIS," Allvin said. "But that wasn't going to be the long-term future of the Air Force."

Looking back, the work seems prescient. "There were things like CCAs in there," Allvin said. "There was a thing called multi-domain command and control, which became ... combined joint all-domain command and control. But that concept was there. Now remember, space was still part of the Air Force, but proliferated low-Earth orbit [satellite architecture] was in there. Human-machine teaming, the fusion of data, there were all sorts of things there."

"I was able to sort of put together some pieces of a vision of a future force: the way we would fight, what we would fight with, the Airmen we would need to fight that," he said.

A career-enhancing assignment came when Allvin was sent to U.S. European Command as director of strategy and policy, from 2015 to 2018, arriving the year after Russia's seizure of Crimea from Ukraine. Around the same time, then-Secretary of Defense Ash Carter asked the combatant commands to develop more modern battle plans—and first up was European Command, then led by Air Force Gen. Philip M. Breedlove, the commander of EUCOM and NATO's Supreme Allied Commander Europe from 2013 to 2016.

"The SecDef challenged us to be the first COCOM to develop combatant commander plans in accordance with the new style, and Dave was instrumental in making that happen," said Breedlove.

Allvin was involved in early discussions of the steps Sweden and Finland would need to take to join NATO should their public eventually decide to do so. After one meeting with Swedish officials early in his tenure at EUCOM, Allvin was pulled aside. Adm. Jonas Haggren of Sweden had something to say: "'I don't know how else to tell you this, but our nation is not ready to join NATO. Our country is not, but my leadership told me we need to make sure that if and when they are, our military is ready,'" Allvin recalled. "About two weeks later, [Gen.] Timo Kivinen, the counterpart from Finland, asks the same basic thing."

"I spent a lot of time with them, doing things, increasing interoperability, working together, doing all that," Allvin added. "And so as I look back, if all that had played just a little bitty part in helping them join NATO, I feel like I did something pretty good. And so that was another, I think, big accomplishment."

That paved the way for what happened after Russia's full-scale invasion of Ukraine, when Sweden and Finland joined NATO with relative ease.

After a stint as the Joint Staff director for strategy, plans, and policy, Allvin served as Vice Chief of Staff of the Air Force when Brown coined the phrase that the service's goal was to "accelerate change or lose."

"We didn't really have a clear direction on accelerate toward what? ... We're moving the force forward, I think I have an idea of some of the areas we need to accelerate toward," he said.

Yet on becoming Chief, Allvin began with the slogan "follow through." His point was that the Air Force needed to continue in one direction. "That vision went through a couple of different iterations, different administrations, with different priorities," Allvin lamented. "And so it wasn't a smooth flow, by any means, but I will tell you that through all of it, the logic has not changed. It is still compelling logic."

That logic included modernizing and enhancing the force with the first unmanned fighters and the go-decision to build the F-47 after it was put on pause by former Secretary of the Air Force Frank Kendall in the waning days of the Biden administration.

"I saw the bulk of all that analysis, and I saw the alternatives," Allvin said. "I was convinced of two things: One was that we needed a capability like this. And two, because of the turmoil that can happen with any transition, and how long it might or might not take to get a Secretary [of the Air Force], I had to exert whatever influence I could. So, because of that, I was able to make the case with all the smart people around me that this was a decision whose time was ready. And failing to make a decision was just wasting time and money." Allvin was able to share that with the President. "So then he asked for more dialogue on it, and we had more dialogue, and he made the decision."

Standing in the Oval Office March 21 as Trump announced the decision, Allvin found himself having to share the "value proposition" for the aircraft with the White House press.

"It was a little bit of an out-of-body experience there," he said, "but I walked out of there feeling as though the Air Force had done well and that this was definitely a step in the direction we needed to go."

Allvin began his final interview as Chief with a show-and-tell, guiding a visitor around the office and its many historical artifacts: Paintings of legendary Airmen like Billy Mitchell and the Doolittle Raiders, a large quotation from Theodore Roosevelt's "Man in the Arena" speech, a Bible signed by every Air Force Chief of Staff, a globe used during World War II by Gen. Hap Arnold, the five-star head of the Army Air Forces whose vision and force of will helped birth the independent Air Force.

Arnold predated the Air Force Chiefs who followed, from Gen. Carl A. Spaatz, Chief No. 1, to Allvin, Chief No. 23. Asked what his legacy as Chief will be, Allvin scoffed.

"Such a narcissistic term, right?" Then, reflecting, ... he offered this: "I feel good about the fact that we've laid the foundation. It's never going to be exactly as you envisioned it at the beginning. If it is, then it was too easy. And if you try and die on every hill to make it that way, you fail. ... What's going to endure? I think as long as the first principles endure, that's all you can really hope for."

VERBATIM

SYNTHETIC AIR BATTLE

"If you can turn a 2 vs.2 [engagement] into an 8 vs. 24, through some form of synthetic ... embedded training, that's a serious game-changer. And better yet, in that scenario, you're actually virtuallypracticing in the environment in which you're fighting. That's theway to go. So, we still need live-fly, still need the large Nellis range. But I think the advancement in synthetic training ... is a game-changer."

—Maj. Gen. Duke Pirak, acting director of the Air National Guard, answering what "excites him" about emerging ways to enhance readiness at ASC25.

H. Darr Beiser

You Need Organic

"As fighter pilots, we have a 'weapon select switch' on our throttles ... it gives you a medium range missile ... a short range missile, and ... guns. It's a really seamless way to switch between kill chains. I think eventually you'll see us get to this point where we're doing that with long-range kill chains and their shorter-range kill chains, with the ability to very quickly switch between [them] ... and it becomes easy."

—Maj. Gen. Joseph D. Kunkel, director of force design, integration and wargaming, Air Force Futures, discussing the need for both long-range-kill chains versus organic kill chains AFA's Air, Space & Cyber Conference [ASC25].

Petty Officer 2nd Class Aiko Bongolan

Peace, Not War

"From this moment forward, the only mission of the newly restored Department of War is this: warfighting, preparing for war and preparing to win, unrelenting and uncompromising in that pursuit not because we want war, no one here wants war, but it's because we love peace. We love peace for our fellow citizens. They deserve peace, and they rightfully expect us to deliver."

—Secretary of War Pete Hegseth during his address to general and flag officers at Quantico, Va. [Sept. 30].

Peace Through Strength

"We are so much stronger than the Russians. We don't have to take down Russian airplanes because they enter our airspace. We do it if they enter our airspace and also pose a threat. If we were weak, we might think ... we have to immediately show them that whenever they enter our airspace, we shoot them down."

—NATO Secretary General Mark Rutte arguing in favor of intercepting but not shooting down Russian aircraft that enter the alliance's airspace.

Ready, Aim, Fire!

"Shoot down Russian drones, period."

—Danish Army Chief Maj. Gen. Peter Harling Boysen at the AUSA conference on Oct. 15

Pfc. Richard Morgan

Copperfield-esque

Jud McCrehin/staff

"When we are most successful, our work can be invisible. No one thinks about the satellite that connects their phone call, or the signal that pinpoints their location, or the guardian who detects the missile launch, because it all just works—like we say, it's freaking magic. The same is true for the people who build and buy the magical systems. To most Americans, their work is an invisible foundation of our national security. It's the herculean, yet unseen effort that happens left of launch that ensures our success in, from, and to space."

—Chief of Space Operations Gen. B. Chance Saltzman speaking about the Space Force's acquisition reform efforts at ASC25.

AVOID A DRONE RACE WITH CHINA

"Let me be real clear. We can't keep up with China on drones. We just are not set up for it. ... They are better at producing cheap electronics than we are. We need a different solution. We can't do 1 vs. 1. We have to have effectors that can be effective against a significant number of drones."

—Michael Hiatt, chief technology officer at Epirus Inc., warning that the U.S. should not try to match China in raw numbers of drones at AFA's ASC25 [Sept. 23].

Two decades after its first operational flight, the F-22 Raptor remains an unparalleled air superiority fighter. Enveloped in a vapor cloud of its own making, a Raptor pilot demonstrates the aircraft's unique combination of speed, agility, and thrust as it climbs into a steep ascent. At 20, the Raptor is still getting upgrades, and in October, Lockheed CEO Jim Taiclet suggested the manufacturer can still better its performance by inserting next-generation technologies, including "stealth, propulsion, inlet designs, coatings." Taiclet said, "We can actually backward-integrate [those] into F-35 and F-22, and are doing so."

Staff Sgt. Lauren Cobin

A SpaceX Falcon 9 rocket blasts off from Vandenberg Space Force Base, Calif., carrying satellites that will make up the Space Development Agency's Transport Layer. The launch begins a cadence of one launch per month for the next nine months, until the constellation is complete. SpaceX continues to be the Space Force's dominant launch provider, but other National Security Space Launch providers will also lift some of these satellites into low-Earth orbit. The transport layer is a crucial part of the Space Force's vision for a robust, resilient communications constellation and will ultimately play a vital role supporting SDA's missile warning and tracking constellation, among others.

SpaceX

Today's latest and greatest is tomorrow's heritage antique. The P-51 Mustang helped win the air war in World War II, with a combat range of up to 1,650 nautical miles when fitted with external drop tanks. Just 34 feet long, the Mustang's 37-foot wingspan made it fast and efficient. By contrast, the modern jet-powered Raptor flying alongside it at an air show this summer is nearly twice as long—62 feet—with a 44.5-foot wingspan. With external fuel tanks, the F-22 can top 1,850 miles of range, but with aerial refueling, range is virtually unlimited. By the time the P-51 was 15 years old, it had been phased out of the Air Force inventory. The Raptor, by contrast, will almost surely serve past 30.

Staff Sgt. Lauren Cobin

Jud McCrehin/staff

Gen. Kenneth S. Wilsbach was confirmed as Chief of Staff of the Air Force Oct. 30, becoming the 24th Air Force Chief of Staff.

Wilsbach Is Air Force's 24th Chief of Staff

By Greg Hadley

Gen. Kenneth S. Wilsbach was confirmed as the 24th Air Force Chief of Staff Oct. 30 by unanimous consent. Shortly before, his predecessor, Gen. David W. Allvin, was "clapped" out of the Pentagon, 10 weeks after he unexpectedly announced his retirement on Aug. 18, two years into his four-year term.

Wilsbach, a fighter pilot whose last assignment was atop Air Combat Command, takes over the Air Force as it works to overcome readiness challenges and to modernize its aging air fleet. Prior to taking over ACC, the Air Force's largest command, he headed Pacific Air Forces, the Air Force component of U.S. Indo-Pacific Command.

"I'm deeply honored by the nomination to serve as the next Air Force Chief of Staff," Wilsbach said in a statement. "The trust and confidence placed in me is not something I take lightly. If confirmed, I intend to strengthen our warrior ethos and to build a more lethal force that is always ready to defend our homeland and deter our adversaries around the world."

Allvin congratulated Wilsbach in a statement: "I wish him all the best and trust that he will continue the momentum and advocate for the best interests of our Airmen, today's readiness, and modernizing our force for the future fight."

A fighter pilot by trade, Wilsbach most recently served as head of Air Combat Command, the service's biggest major command responsible for the bulk of its combat fleet. There Wilsbach stressed readiness and standards, calling out a "discernible decline" in commitment to and enforcement of Air Force standards among commanders and NCOs, and directing inspections to address the issue.

He developed a new metric to measure aircraft readiness including monthly briefings to him on the health of the fleet, a move that seemed to dovetail with Allvin's vision that ACC take on an expanded role in "generating and presenting ready forces."

Wilsbach headed Pacific Air Forces prior to ACC and has a long history in the Indo-Pacific, having commanded the 7th Air Force in Korea, the 11th Air Force in Alaska, and the 18th Wing at Kadena Air Base, Japan. He did stints at

U.S. Indo-Pacific Command and PACAF headquarters, experience that will be valuable as the Air Force girds for deterrence and potential future combat scenarios in the Indo-Pacific to counter China's regional and global ambitions.

Wilsbach also inherits an Air Force with massive modernization requirements, an aging and shrinking force, and challenges in many of its acquisition programs, including the F-35 fighter, KC-46 tanker, and T-7 trainer, all of which have hit speed bumps, and future platforms that are further out but so far appear to be on track, including the B-21 bomber, autonomous Collaborative Combat Aircraft, and the F-47 penetrating fighter. The biggest program of all is the Sentinel intercontinental ballistic missile program, which will cost in the tens of billions of dollars and is already over budget and behind schedule.

Facing all this and dealing with limited resources, Allvin and his predecessors have had to choose whether to prioritize readiness for the fight tonight or a potential future conflict. It's a choice Wilsbach will likely face as well, unless he and other Air Force leaders can make the case for more funding.

Wilsbach's appointment puts a fighter pilot in the Chief's office, joining 11 of the past 13 CSAFs who likewise were fighter pilots. Prior to the 1980s, the Air Force had been led by bomber pilots.

In a statement of support for Wilsbach, AFA President and CEO retired Lt. Gen. Burt Field urged the Senate to swiftly confirm him. "General Wilsbach's demonstrated leadership at every level, strategic vision, and extensive experience in the Pacific theater, as well as his command of Air Combat Command and Pacific Air Forces, ideal preparation for this important assignment. Now, more than ever, the Air Force needs bold and innovative leadership as it modernizes in response to growing threats around the globe, and especially in the Indo-Pacific region," Field said.

Readiness Takes Center Stage

By Greg Hadley

In his first interview as Secretary of the Air Force, Troy E. Meink told Air & Space Forces Magazine that the extent of the Air Force's readiness challenge was his biggest surprise in his first few months on the job.

At AFA's 2025 Air, Space & Cyber Conference, he doubled down on readiness as a defining priority.

"I knew there was a readiness challenge," Meink said in his first major address to Airmen and Guardians. "I didn't appreciate how significant that readiness challenge was."

Citing a recent visit to Joint Base Langley-Eustis, Va., Meink described seeing sidelined F-22 Raptors. "When there's a number of aircraft, nonoperational, sitting around the ramp that aren't even being worked on, because we simply don't have the parts to do that, that's a problem," he said. "We have to fix that, and there's a series of things I think we're going to have to do."

Jud McCrehin/staff

Secretary of the Air Force Troy Meink says the extent of USAF's readiness challenges is beyond what he imagined.

As the Air Force has reduced to its fewest tails in decades, Maj. Gen. William D. Betts, director of plans, programs, and requirements at Air Combat Command, noted that the readiness issue is becoming more pressing, shrinking the combat fleet even further.

"If you look at an [almanac] you would see a certain capacity, a number of fighters that the U.S. Air Force has," Betts said in a panel discussion. "But the reality is that on any given day, there's significantly less of those aircraft that are actually available and ready to fly." Development and procurement of new aircraft will help grow the fleet. But the "fastest" way to address capacity, Betts said, is to make sure jets on the flight line today are ready to fly.

Or, as Chief of Staff Gen. David W. Allvin put it even more bluntly in his last major speech as Chief: "Man, we've got to grow readiness."

THE PROBLEM

At its core, the Air Force's readiness challenge comes down to "flying and fixing airplanes," said ACC Commander Gen. Adrian Spain. But understanding everything that goes into that

is complicated.

"It's hard to measure accurately, and it's difficult to communicate concisely," said Maj. Gen. John M. Klein Jr., who serves as assistant deputy chief of staff for operations. "I think we've struggled a long time with how we're actually measuring readiness, and does that match up with what we're presenting. ... Readiness is not a single metric. It's the amalgam of many different factors, and it's mission-dependent. So a unit might be ready for one task, but not another."

Mission capable rates—the percentage of a fleet that can accomplish one of its assigned missions over a given period of time—is traditionally the primary means of publicly communicating a sense of readiness to Congress and the administration. The Air Force has other more precise measures, including fix rates—the percentage of maintenance fixes completed within 12 or 24 hours—and flying hours, the amount of flying time pilots have to train.

Earlier this year, Air Combat Command introduced a new readiness model called "readiness-informed metrics." RIM is intended to take percentages and abstractions out of the picture and to provide commanders throughout the chain of command a clearer picture of how many aircraft are available and whether a unit has enough or too little available capability at any given time. That data will not be released publicly, however.

Retired Col. John Venable, a fellow at AFA's Mitchell Institute for Aerospace Studies, has focused much of his research over time on the decline of flying hours and of appropriate funding to sustain and maintain aircraft so that pilots can get the reps and sets they need to be proficient.

During the Gulf War and at the end of the Cold War, Venable said, "the average pilot got over 200 [flying hours] and we considered anyone who got less than 150 hours noncombat capable. We would not send them to war." By comparison, the Air Force now requires between 100 to 110 hours, depending on the experience level of the pilot—totals few pilots reach.

"We haven't met that in several years, ladies and gentlemen, and that's the minimum," Venable said at the conference. "The numbers of hours our guys are getting are less than 120" per year.

Meanwhile, the aircraft are getting older, and the work required to keep them flying is taking longer. Meink even noted that on a recent visit to Guam, he saw the exact same KC-135 tanker he had flown decades ago as a young navigator.

"We will be maintaining aircraft probably that are 100 years old on the path we're on," he said.

RESOURCING

The simplest way to improve readiness—at least in a vacuum—is more money. Klein said the Air Force's Weapon System Sustainment account is funded at only about 80 percent of the required amount. That equates to a 20 percent shortfall in spare parts and repairs.

Meink said he intends to stop using readiness accounts as "bill-payers" for modernization or other priorities. He expressed gratitude for help from Congress, which passed legislation this past summer that included $2.5 billion for "facilities sustainment, restoration, and modernization"; $2.12 billion for "spares and repairs to keep Air Force aircraft mission capable"; and $250 million for "depot modernization and capacity enhancement."

Yet the reconciliation bill was a one-time cash infusion, and rebuilding readiness will require tens of billions of dollars more over multiple years, Venable said in a recent research report.

While Meink has said he is confident that the White House and Pentagon will support more readiness funding in future budgets, he also argued that the Air Force will need to make hard choices with the money it does get.

"When you don't have unlimited resources—which we don't have—we need to make sure we are applying the resources we have for weapons system sustainment and readiness to the right and highest-priority systems," he said.

Anything that's "not capable of operating in a contested environment" is going to get second priority, he suggested, saying the service needs to "be second-guessing … how much money we're dumping into readiness" for unsurvivable platforms.

Although he declined to specify the platforms he had in mind, Air Force officials have repeatedly called the A-10 Thunderbolt II unsurvivable in a peer fight. And the Air Force's MQ-9 Reaper drones also lack the speed and stealth to survive in contested airspace. Indeed, they have been shot down repeatedly by Iranian-backed militias possessing far less sophisticated defenses than those belonging to Russia or China.

Yet any discussion over funding belies a key issue when it comes to fixing Air Force readiness, multiple generals said. The plain fact is that timelines and supply chains are also stretched thin.

"If we got $100 billion today to spend on parts, those parts wouldn't show up for two to three years," Spain said.

The Air Force uses the term "diminishing manufacturing sources" to describe the shrunken supplier base for older replacement parts.

There is also a people piece to the equation, Klein said: "You need maintainers to fix those aircraft, and it takes me five to seven years to grow" a seasoned aircraft maintainer. In other words, even if the supply chain could deliver, the Air Force lacks the maintenance personnel to catch up to its own repair backlog.

The number of enlisted maintainers in the force has dropped by thousands in recent years, according to data provided to Air & Space Forces Magazine.

Venable said leaders have no time to waste. "Our ability to fight tonight and the future of our capability begins today," he said. "It doesn't begin in seven years."

Spain said the struggle must be a daily one. "I'm not rolling over on my back and showing my belly," he said. "We're going to fight every day to get a little bit better and a little bit more ready. ... If I keep doing that with the resources and people that I have with me, and when those new resources come in, if they do, then we'll be more appropriately equipped to take that on and to go faster."

It starts, leaders said, by resetting how the Air Force views readiness to take a more holistic, nuanced view.

"For the last 30 years or so, we've kind of looked at it about the same way. I get X number of events done per month, and if I do Y number of events, I'm ready. If I do X minus one number of events, I'm not ready," Spain said. But that approach doesn't let commanders in the field allocate their resources in the best way possible.

"We have to give them the tools to really pinpoint how we're using these resources, because when everybody has the same demand signal, you aren't actually prioritizing how you spend those limited resources. You're just trying to peanut butter spread it across the formation," Spain said. "And so we have an opportunity coming forward to look at some things ... in terms of competency mapping, proficiency-based training, and not just event-based measurement on a spreadsheet."

Lt. Gen. John P. Healy, head of Air Force Reserve Command, said the Reserve is likewise focused on more precisely understanding its readiness challenge. As recently as 2021, when he was head of the 22nd Air Force, he said officials tracked flying hours by looking at last month's data—too late to make any changes, a serious issue given that the Air Force often cannot execute all

the flying hours its funded for in a year.

"We've got a data tool now in our flying hour program that allows me to go look yesterday, to the airplane, how we executed," Healy said. "And we're closing out the year, and we are on the razor's edge to executing our flying hours this year."

BALANCE

Readiness problems have been growing over time. In October 2018, then-Defense Secretary Jim Mattis, stunned to find readiness levels hovering in the 50 to 60 percent range for front-line fighter jets, ordered the Air Force and Navy to achieve 80 percent mission capable rates. Only the Navy was able to make that goal. In 1998, then-acting Air Force Secretary F. Whitten Peters warned that engine readiness had "become a very significant problem."

Readiness in the years after Vietnam were also an ongoing concern. In 1986, new Chief of Staff Gen. Larry D. Welch called "readiness today and readiness tomorrow" his top priorities.

Over the years, leaders have tried to improve readiness by pouring resources into different "foundational" accounts like manning, flying hours, weapon systems sustainment, support equipment, and infrastructure, Spain said. And while choices made were "entirely appropriate" at the time, he said, they have left things "out of whack."

"One of the things that I know we're working really hard on is rebalancing those foundational accounts," Spain said.

Klein echoed that point, saying the service has been stovepiped in its approach to investing in readiness. He compared the situation to a 1980s boom box stereo: "If those knobs across the different frequency bands were off, you had some distorted music. So you need all those knobs set right to get the nice, clean crystal sound that you want so you can make mixtapes for your girlfriend," he said. "They have to be balanced."

Allvin said the Air Force will achieve that balance as it seeks "to put more parts on the shelf, to put more maintainers on the flight line, to put more velocity through our depots, to put more aircraft availability in the hands of our Airmen, to put more flying hours in to ensure our crews are ready, and continue that virtuous cycle, an upward spiral."

And even with the issues the Air Force does face, Spain argued there should be no doubting the service's capabilities.

"We still have the world's greatest Air Force, and we're [talking] about readiness challenges, but that is in the context of the world's greatest Air Force," Spain said.

Editorial Director John Tirpak contributed to this report.

SPACE

USSF Seizes Opportunity to Reform Space Acquisition

By Courtney Albon

The Space Force has a "once-in-a-generation opportunity" to change the way it develops and delivers space capabilities, said Chief of Space Operations Gen. B. Chance Saltzman at AFA's Air, Space, and Cyber Conference, and Congress is poised to help make that possible.

Both the House and Senate have pending legislation that seeks to repeal large portions of federal acquisition law and prod the Pentagon to more readily embrace commercial technology.

Defense Secretary Pete Hegseth has also championed rapid procurement, directing faster software acquisition and dismantling the cumbersome requirements process known as the Joint Capabilities Integration and Development System (JCIDS).

"Nearly every corner of the government is clamoring for change, from the highest levels down," Saltzman said. "Likewise, I hear from industry leaders that they're excited to partner in accelerating these changes. We find ourselves in a generational moment. We have the drive, the political will, and the necessity to make the lasting changes in how we field combat-credible space capabilities."

Saltzman highlighted several ongoing initiatives—some reflecting lawmakers' reform proposals and others addressing challenges unique to USSF. They include his push to deepen connections between operational units and acquisition teams and to scour procurement plans to find ways to integrate commercial capabilities and invest in its military and civilian workforce.

Perhaps the Space Force's biggest organizational shift is its move to combine operators and sustainers into Integrated Mission Deltas (IMDs) under a single commander. Since last year, USSF has established IMDs in four mission areas: space domain awareness, electronic warfare, missile warning, and

Jud McCrehin/staff

Chief of Space Operations Gen. B. Chance Saltzman wants to build greater ties between acquisition professionals and the operators they support, so that updates reach warfighters more quickly.

positioning, navigation, and timing.

The Integrated Mission Deltas, which fall under Space Operations Command, are paired with System Deltas from Space Systems Command (SSC), which are charged with supporting rapid capability development for each mission area. SSC has established five System Deltas and expected to create another three by the end of October.

In this new construct, Saltzman said, "the commander who owns the readiness problems also owns the tools, the resources, and authorities to address those problems. This allows us to prioritize the fixes that are most important to operational readiness—test, upgrade in ops, and improve quickly as we learn from real-world experience."

OPERATIONAL IMPACT

The benefits of this approach were apparent in August when the Space Force cleared its Deep-Space Advanced Radar Capability for initial operations. A joint team of operators and acquirers partnered to test and transition the system to limited early operations months earlier than would have been possible in the past, Saltzman said.

Space Operations Command boss, Lt. Gen. David Miller said the command has made steady improvements in its ability to quickly prepare, launch, and deploy satellites. In a panel discussion Sept. 24, he cited the Rapid Response Trailblazer mission in May, when it launched a GPS III satellite just three months after initial launch notification. That might have taken up to two years in the past, he said.

But the IMDs "owned all the elements of logistics and sustainment," enabling them to quickly integrate payload and transport and to launch the spacecraft, all while balancing risks to safety and resilience.

Miller also highlighted electromagnetic warfare, where USSF is transitioning from small, focused deployments of its Counter Communication System to a remote, distributed system called Bounty Hunter that allows operators to respond more quickly to EW threats around the world—and, more importantly, better track enemy jamming or other EW activity before it disrupts U.S. or allied systems.

"When an adversary is jamming or disrupting our system, if we understand where that's at, we're able to geolocate that capability in the future on seconds-to-minutes timelines," Miller said.

Coupling that operational imperative with system developers housed in a single IMD, the command has been able to quickly identify capability gaps and iteratively upgrade Bounty Hunter, he added.

"We have literally leaped ahead two weapon system upgrades in the Bounty Hunter electromagnetic surveillance capability," Miller said. "That's really due to the partnership where now we have dedicated system deltas working day-to-day on our priorities."

At SSC, the establishment of system deltas has not only strengthened the acquisition workforce's connection to the mission their systems are supporting—it's also pushed problem-solving and decision-making down, from the three-star commanders to captains.

SSC Commander Lt. Gen. Philip Garrant said pushing down those authorities frees commanders from having to intervene in day-to-day problems.

"That frees us up to be more strategic leaders," he said.

PROGRAM REVIEWS

Meanwhile, at the headquarters level, the Space Force is working to ensure that the acquisition best practices touted by senior leaders and lawmakers are implemented across its program offices.

At the beginning of this year, Maj. Gen. Stephen Purdy directed a sweeping review of all the service's programs to identify cost and schedule risks. In some cases, that led programs to change their contracting strategy or acquisition approach to incorporate more commercial capabilities. In other instances, it led to cancellations.

One of those cancellations was the Protected Tactical Satellite Communications-Resilient program, which was developing jam-resistant satellites. In early July, the service announced it would shift those requirements to another effort, Protected Tactical Waveform, to reduce costs and contracting risk.

The review also led the service to consider new ways to perform missions using commercial capabilities. Perhaps the most notable example is the Geosynchronous Space Situational Awareness Program (GSSAP), whose satellites monitor spacecraft and other objects from geosynchronous orbit.

U.S. Space Command has said it wants GSSAP and other space domain awareness satellites to be more mobile, able to maneuver to avoid debris or observe objects of interest. So, as part of Purdy's review, SSC reached out to industry to see if commercial providers could meet those requirements.

The response was a resounding yes, which led the Space Force to pursue a follow-on GSSAP effort, dubbed RG-XX, which will field a fleet of small, maneuverable satellites that can be refueled in orbit.

Purdy told reporters in a Sept. 24 roundtable that the service continues to review whether major changes to existing efforts make sense from a cost and engineering risk perspective.

"You have to really balance what's feasible and possible and what's near-commercial with what's actually operationally suitable," he said.

WORKFORCE INVESTMENT

Amid ongoing organizational and process changes, the Space Force is also rethinking the way it trains and invests in its acquisition workforce.

Saltzman announced a first-of-its-kind initial qualification course for new acquisition officers, a 10-week course that dives deep into the complexities of program management, testing, and contracting. It also gives officers a chance to learn from experts in industry and to be mentored by senior Space Force leaders.

USSF wants to bolster its civilian acquisition team, which Saltzman has said was disproportionately affected by the Trump administration's cuts to the federal workforce earlier this year. The Space Force lost about 14 percent of its civilian personnel to early retirement and deferred resignation programs, many of them acquisition experts. That's nearly double the average across-the-government rate of workforce reductions.

Saltzman told reporters the service sought and won waivers from the Office of the Secretary of Defense to hire—or in some cases rehire—replacements. Now, leaders are determining which acquisition specialties to prioritize.

"We're going back through and saying, 'let's use this as an opportunity,'" he said. "How do we reshape the workforce? How do we use the hiring authorities to put people where we need them to do the right work?" Part of that reshaping involves balancing the need for an experienced workforce with the imperative to grow expertise more organically over the long term, Garrant said. For example, while SSC could opt to hire a retired acquisition officer with years of experience to work as a contractor, it may benefit the service to play the long game and instead hire someone they can develop for the future.

That's a difficult balancing act amid major acquisition reforms.

Garrant highlighted the ongoing work to rewrite the Federal Acquisition Regulation, which governs how government agencies buy products and services. The goal is to simplify procurement regulations and make federal buying more flexible, but lowering guardrails and making policies less prescriptive also means acquisition officers will end up making more decisions.

"In a lot of ways, you're now relying on the contracting officer to make a lot more choices on their own, and in those cases, you really want a more experienced contracting officer," he said. "So, it's a balance of that experience and nonexperience."

In the coming months, Garrant said, his goal is to strategically build back the service's acquisition workforce, so that even if it's leaner than in years past, it's ready to start implementing the coming reforms.

CCA

Collaborative Combat Aircraft Missions Come into Focus

By John A. Tirpak

Air Force Secretary Troy Meink is leaning toward a less costly, less sophisticated concept for Increment 2 of the Collaborative Combat Aircraft (CCA) autonomous fighter escort program. Yet it could be another year before the service settles on what it really wants from CCAs, USAF officials said at AFA's Air, Space & Cyber Conference in September.

Increment 1 pits General Atomics against newcomer Anduril in a contest to build aircraft that could cost $30 million per copy. Meink told Air & Space Forces Magazine that he wants Increment 2 to offer a lower-cost alternative.

"I'd like to see it come in substantially less than that, like maybe half," Meink said. At that price, industry officials said the Air Force would get something more like a reusable cruise missile than a stealthy, survivable robot wingman.

Meink said the Air Force already has 20 to 30 contractors working on various aspects of that less-costly concept—airframes, flight software, mission systems, connectivity, and automation, to name just a few. Defining the objective mission and selecting contractors to develop and integrate a system could take another year. In the meantime, Air Force officials expect to sign new contracts with companies to refine operational concepts, airframes, flight software, integration, propulsion and more, with some to be let within the next few months.

Gen. Adrian Spain, head of Air Combat Command, said the mission "is still somewhere on that spectrum from exquisite to affordable. We are still looking [at ideas], and competition

A YFQ-42A Collaborative Combat Aircraft takes off during flight-testing at a California test location. The aircraft was developed by General Atomics as part of the Air Force's effort to create affordable, autonomous aircraft that can be integrated into the fighter force.

Courtesy

is good."

RTX's Pratt & Whitney has begun developing propulsion systems it says can scale from 500 to 1,800 pounds of thrust with an eye toward powering reusable, low-cost flying platforms. GE Aerospace is partnering with Kratos to develop engines in the same class, and Honeywell and Rolls-Royce are also developing power plants in that class. All see an emerging market for engines to power CCAs and CCA-like platforms.

The Air Force has made "some investment" in this category, one development official said, but he cautioned that there's no direct link between the thrust classes of these engines and the expected shape of Increment 2. Those same engines could power anything from CCAs to low-cost cruise missiles to modular, payload-agnostic "flying trucks."

Lt. Gen. Joseph D. Kunkel, the Air Force's director of force design, integration and wargaming and deputy chief of staff for Air Force Futures, said fleshing out the Increment 2 concept of operations should take "about another year."

General Atomics Aerospace Systems started flying its YFQ-42A Increment 1 aircraft in August, going from contract award to first flight in 16 months. Anduril Industries has faced setbacks, having expected to fly its "Fury" YFQ-44 CCA first in September and then in early October. General Atomics hasn't revealed whose power plant is driving the YFQ-42, while Anduril's CCA is reportedly powered by a Williams International FJ-44 engine—a business jet power plant. GA told Air and Space Forces Magazine its aircraft is "engine agnostic."

Meink, still settling into his job, said he's in "no hurry" to nail down the Increment 2 specifics. With Increment 1 still in its early stages, officials have yet to determine what it will deliver. Production is supposed to begin next year, and it is possible the Air Force could buy aircraft from both Anduril and General Atomics rather than downselect to one.

Production capacity "is going to be one of the considerations of this program," one official said, suggesting the Air Force may be willing to "pay a little more" to get it. Several echoed a truism frequently cited by former Pentagon acquisition and sustainment chief William LaPlante: "production is deterrence."

As for Increment 2, that field remains wide open. Officials see potential to select more than two proposals, especially if there is a desirable international partnership involved. Boeing, which did not win Increment 1, continues to mature its MQ-28 Ghost Bat Advanced Teaming System CCA, a joint program with Australia.

Future increments are also possible. Senior officials cited a potential need for a more survivable system capable of performing more sophisticated targeting, reconnaissance, or communications missions. The concept could be to develop a modular payload system similar to that proposed by General Atomics, with its "Gambit" series, a line of CCAs that share a common chassis, engine, landing gear, and processor core, but able to be fitted with a mission-specific, modular airframes tailored to missions as diverse as air superiority and stealthy intelligence collection.

Lockheed Martin's Skunk Works advanced projects unit has developed a new CCA called "Vectis," a stealthy airframe intended for tasks such as flying ahead of a crewed fighter and designating and/or shooting aerial targets. Lockheed said the aircraft, which it said has not been designed for a specific requirement, would be available at "a CCA price point." Skunk Works President O.J. Sanchez predicted Vectis would fly in 2027 and make a "great" CCA if the Air Force wanted it.

Industry officials said Vectis derives from Lockheed's unsuccessful first CCA proposal, which company sources said turned out to be more sophisticated and expensive than the Air Force wanted in Increment 1. But one said that air defenses worldwide will soon demand that CCAs have a "certain threshold of stealth" to survive long enough to answer the Air Force's requirement for affordable mass.

Otherwise, he said, "they are expensive cannon fodder. That's not 'affordable mass.'"

Sanchez told Air & Space Forces Magazine that Lockheed assumed some risk taking Vectis forward without a definite customer in mind, but the company is convinced that Vectis' combination of connectivity, stealth, and capability "is what is needed in this moment."

When "the customer asks for it, speed will be important," he said. "You'll have to have something ready to go … ready to offer." Vectis will be flexible enough to adapt to whatever a customer ultimately decides it needs, he added.

Brig. Gen. Jason Voorheis, program executive officer for fighters and advanced aircraft, said in an airpower modernization panel that the CCA program in all Increments is being developed with "an 'exportability by design' mentality;'" with the idea that partner and allied air forces will be able to buy them to boost

their own capacity and capability, to achieve affordable mass.

He added that "the value proposition for modularity, open architectures, and open standards is crystal clear." The approach to CCA—with many vendors in all aspects of its development and production—will break "vendor lock through those open standards, driving sustained competition, allowing for multiple vendors who can integrate different software and different hardware, unlocking it for innovation across our industrial base." By "isolating flight critical from mission software, which open architectures allows us to do, that allows us to insert technology more quickly over time, driving … agility," he said.

Kunkel, on the same panel, said that CCAs, besides offering affordable mass, offer "the ability to adapt very quickly, and then scale" production. This is one of the main, though "often overlooked" benefits of the program, he said.

"Sometimes we get ourselves locked in generational capabilities, and we hold onto those capabilities potentially for too long," he said. Keeping the simplicity of CCAs and holding them at a low price point "as part of that model will help us to adapt and then scale new capabilities, much like we did in the Century Series from long ago."

The Century Series was a progression of fighters in the 1950s and '60s that explored different combinations of speed, payload, and maneuverability. All went into production, and each represented an advancement in some aspect of air combat. The Air Force, in a series of internal talking points for the conference, said, "CCA Increment 1 is currently in the design, development, and testing phase, with production decisions slated for FY26." Between now and next Sept. 30, the Air Force "will begin to refine the concept(s) for CCA Increment 2. All current (over 20) and potential future industry partners in the vendor pool are eligible to compete for the CCA Increment 2 concept refinement activities."

Service leaders emphasized, in speeches and panel discussions, that CCAs are not a substitute for crewed platforms, but in addition to them, as a "force multiplier."

"By pairing crewed fighters with affordable, mission-specialized, semi-autonomous systems, we can stretch the reach, responsiveness, and resilience of our entire Air Force, while reducing risk to pilots," the talking points stated. The CCA is being developed "with affordability in mind, not just in procurement, but across its entire life cycle—through reduced flying-hour demands, simplified logistics, and lower sustainment costs."

Besides producing autonomous aircraft at scale to achieve affordable mass in combat with a peer adversary, the CCA program is also charting a new path for rapid development and acquisition, service officials said.

The Air Force recently announced that Increment 1 will be "hosted" at Beale Air Force Base, Calif., where some of the aircraft will be operated on a regular basis. Beale will not be the CCA schoolhouse, however, and most CCA operational training will be simulated. That's because one benefit of these uncrewed systems is that they can be kept in their crates until needed, with some potentially pre-positioned at secured forward air bases.

Dave Alexander, president of General Atomics, said during a panel discussion that CCAs are ideally suited to the Air Force's affordable mass and rapid modernization requirements.

"We don't have a lot of time to get more platforms and more crews," Alexander said. "Large numbers of CCAs really support [a] protracted air campaign, especially when you consider the tyranny of distance" in the Pacific.

A fleet of CCAs can be pre-positioned or quickly deployed via cargo aircraft, supporting the Air Force's Agile Combat Employment model "without overburdening … tankers." He also said that CCAs, designed for air-to-air combat and leveraging advanced autonomy, can be employed to protect airborne command centers and tankers, freeing crewed fighters for other missions.

"We don't have to wait 15 years" to develop such a capability, Alexander said. "We can save on aircrew, save lives, and do it quick."

DLE

Fail Today, Win Tomorrow: Reflecting on Pacific Wargames

By David Roza

The Department of the Air Force swung for the fences this summer with a massive six-week exercise stretching from Japan to New Mexico where more than 12,000 Airmen and 700 Guardians worked with their sister services and foreign partners to simulate as realistically as possible what it would be like to go to war in the Pacific.

Air Force officials said the Department-Level Exercise (DLE) was the largest in a generation, with Airmen and Guardians simultaneously operating in as many as 50 locations across millions of square miles. The goal: See what worked and what didn't, and what it would take to succeed in a real fight against a peer rival like China.

"We stressed the system, and we know where we fell short, and we know the capabilities we need to go forward," said then-Air Force Chief of Staff Gen. David Allvin, in his final keynote address as Chief at AFA's ASC Conference. "So failure is good—in training. … We're taking those lessons, and as an enterprise, we owe it to our Airmen to follow through on those and have the enterprise solve some of those gaps. We can't have our Airmen walking into a fight in the complexity we expect and have them untrained and learning on the fly."

Air Force and Space Force generals who oversaw elements of the DLE recapped lessons learned throughout the conference, focusing on two themes: distributing command and control (C2) and strengthening logistics.

"Command and control is inherently difficult, and the fog and friction of war, especially when you add in logistics, are paramount to overcome," said Lt. Col. Dan Blomberg, commander of the 35th Civil Engineering Squadron, discussing Exercise Resolute Force Pacific, in a video Allvin shared during his address.

"What do you do without parts, what do you do without materiel?" he added. "REFORPAC allowed us the ability to make

mistakes and learn from them very quickly. That opportunity to learn, iterate, and execute in one fell swoop is worth its weight in gold."

DISTRIBUTING C2

Keeping track of thousands of Airmen flying hundreds of aircraft on dozens of missions all at once is highly complex, involving numerous chains of command, reporting requirements, and decision-making authorities.

For the past two decades, the Air Force grew accustomed to handing off control to the 609th Air Operations Center (AOC) in Qatar, which oversees operations in the Middle East theater. But the relatively unfamiliar Hawaii-based 613th AOC, which oversees Pacific Air Forces, hasn't seen that kind of action. That's a challenge for the transport aircraft that fly in and out of the region doing long-haul supply missions.

Airman 1st Class Andre Medina

U.S. Airmen assigned to the 106th Rescue Wing and 22nd Airlift Squadron load an HH-60W Jolly Green II helicopter into a C-5M Super Galaxy aircraft during exercise Resolute Force Pacific (REFORPAC) 2025 at Misawa Air Base, Japan, in August.

"We've got a long way to go still on that, on command relationships and command and controlling those aircraft," said Maj. Gen. Charles Bolton, commander of the Illinois-based 18th Air Force, echoing similar points made by Allvin and Gen. John Lamontagne, head Air Mobility Command, which oversees Air Force transport aircraft.

"A lot of folks in our Air Force think they can just snap their fingers and say, 'Hey, I need a C-17 or C-130 to go from A to B and then to C," Bolton said. "Well, across that expansive airspace with 50 different locations and 14,000 short tons, it's certainly not that easy."

The Air Force needs "to better understand" how to manage air transport so that commanders can better prioritize missions, he said. That includes getting the 618th and 613th AOCs to work more closely together.

"Every theater is a little bit different," Lamontagne said. "That burden is on the 618th AOC to integrate with all the AOCs out there."

Air Force officials usually focus on C2 for fighters and bombers, said Pacific Air Forces boss Gen. Kevin Schneider. But C2 for logistics—for transports and tankers—is no less critical.

"We need to equally invest time and thought and resources into the command and control of logistics and sustainment to give ourselves the best ability to generate airpower," he said.

Air Combat Command's Gen. Adrian Spain was happy to report on one C2 success: A Combined Air Forces Component Commander (CFACC) based in Hawaii managed to oversee operations in Nevada and California during exercise Bamboo Eagle. Usually a colonel closer to the exercise role-plays as the CFACC, Spain explained.

"The ability to do that with the CFACC calling balls and strikes, frankly, and prioritizing where our energy and resources need to go, was really the major lesson learned for us," he said.

On the other side of the coin, generals said no single air operations center can handle something as large as the DLE, especially if adversaries isolate that center via electronic warfare, cyberattacks, or kinetic strikes such as cruise missiles.

To make the force more flexible and responsive, Schneider and other top generals who oversaw the DLE called for pushing decision-making authorities as far down the chain of command as possible, particularly when it comes to logistics and sustainment.

"With that comes perhaps some doctrinal changes," he said. "What are the delegations that I need to give or others need to give, down to the lowest echelons of command, so that they can make the decisions about where the fuel needs to go, where the munitions need to go, how runways need to be repaired … to most effectively generate airpower?"

Lamontagne noted the success of a new tactic where C-130 transport planes operated from regional hubs such as Guam and Japan.

"Instead of holding all our C-130s at the theater level, [Pacific Air Forces and Air Mobility Command] allocated C-130s to Japan and Guam task forces, and found that was very, very effective for those commanders that were running those operations," he said.

Lt. Gen. David Miller Jr., the head of Space Operations Command, saw a similar trend for space forces.

"With the level of complexity and scale of this challenge that we face, we are not going to be able to joystick all this from one C2 center, and we are going to have to expect more and more from the tactical-level units of action to execute mission command," he said.

Miller recalled how, at one point during the exercise, a joint operations director requested a Space Force colonel to help out—and Miller had only a captain to spare. It worked.

"You're getting the captain, and that captain did an amazing job," he said. "We're going to have to move forward with a level of expectation that we have not had in the past."

Likewise, Spain said the Air Force must continue "to reinforce and foster the mindset that for a period of time, you will be operating under mission command and commander's intent," because connectivity between echelons cannot be guaranteed.

Similarly, systems built for U.S. operators need to be able to flex to allow partners and allies in, as well as to let higher echelons push responsibility and authority down the chain.

"We do this with allies and partners, we do this as a team," Spain said. "We cannot build a U.S.-only system and then try to snap a releasable enclave on the end of it."

"Integrated by design" cannot be just a buzz word, Spain said.

The Air Force's mobility fleet may have the most work to do in this regard. "The Air Mobility fleet is not connected," Allvin said. "Why hasn't it been? Well, when we built these systems … we didn't have a full appreciation for the premium that we would put on integration."

The Airlift Tanker Open Mission Systems kit and Starlink

demonstrated how a group of C-17s carrying hundreds of paratroopers from Alaska to Australia during the DLE could change their plans on their way to meet a group of tankers over the Pacific.

Lamontagne said the changes happened in real time. "Instead of jumping on an HF radio or waiting for 30 minutes out, they could solve problems well in advance and just drive solutions and make everything easier," he said.

A recent $200 million funding boost will equip several C-17 and KC-135 squadrons with better connectivity tools and start the long modernization process, Lamontagne said.

The same goes for space systems: Miller said his troops need better "shared awareness tools" so that they can more easily explain to terrestrial commanders what's going on in space. "So if we make a decision to do something that delays, they understand the context of why we are pushing for that delay," he said.

PRE-POSITIONING

One big twist in the DLE, Allvin said, was the way the events unfolded. Most Air Force wargames start out with all the equipment already in place—but not the DLE.

"We didn't start the exercise in the middle of the fight," he said. "We've got to be able to get to the fight to see if we can win the fight. And this provided realistic challenges for all of our Airmen to overcome."

To move large amounts of troops and equipment across the Pacific Ocean in a hurry, Air Mobility Command had to face up to limitations. The entire U.S. military must rely on C-5 and C-17 transport jets and C-130 planes equipped with large external fuel tanks to get to the fight. But AMC has just 222 C-17s, 52 C-5s, and 150 or so C-130Js.

The DLE underscored how moving equipment efficiently now frees up future cargo capacity later.

"Everything that we did across the Pacific this summer was enabled by Air Mobility Command," Schneider said. "We have to be very deliberate and smart about where we put kit, where we put gear, so that units that are falling into their fighting positions are ready to go immediately in that regard." In other words, if the gear isn't in place, it will take much longer for units to be ready to join the fight.

Lamontagne said AMC is already moving hundreds of pieces of equipment, including heavy forklifts, tow vehicles, and equipment used to start and maintain aircraft into the Pacific so it's ready to go when needed. Some of that gear came out of excess stock in the continental U.S. and Europe.

"We have an opportunity that we're actually moving out right now, not waiting for warehouses to be built for storage," Lamontagne said.

The Hawaii-based 515th Air Mobility Operations Wing can use the gear to keep Air Force transports ticking even if no conflict occurs.

Launching aircraft takes more than just equipment: it also takes fuel, electricity, communications, and other infrastructure that is well-established on the air journey to the Middle East, but not so much to the Pacific. The Air Force has not really built expeditionary infrastructure from scratch since Desert Storm, Bolton said.

"Those are the lessons learned that we took away from the DLE," he said. "Where are those points where we still have some infrastructure" shortfalls?

Infrastructure stood out to Air Force Secretary Troy Meink, as well. While flying in a C-130 over the northern end of the island of Tinian, he saw Air Force civil engineers rapidly unearth a jungle-bound airfield first used in World War II.

"The CEs (civil engineers) have cleared this place, are building hangars, rolling tarmac in a fraction of the time we would traditionally need to do construction," he said. He was so impressed, he said, "when I came out of there, I wanted to just hire another 50,000 civil engineers in the Air Force and have them do all of our construction."

Like carving an airfield out of the jungle, Allvin hopes the Air Force will make operating across the Pacific more manageable. The DLE was meant to show the way.

"If, after all the money that we spent, after all the resources, after all the planning, after all the execution, if all we did was just go and validate things we already knew, it might not have been a best use of our resources," he said.

AIR

A New Kind of CCA? Meet the Supersonic X-BAT

By John A. Tirpak

Shield AI has entered the increasingly crowded field of Collaborative Combat Aircraft, announcing Oct. 23 its "X-BAT" vehicle that stands out from others by having both vertical takeoff and landing capability and supersonic speed.

The X-BAT, with a cranked-arrow shape the company says is stealthy, is also "the only platform in its class to combine VTOL with a range of [greater than] 2,000 nautical miles with full mission payload," allowing it to operate from "ships, islands and austere sites," according to a company announcement.

Shield AI touts the X-BAT as being a 4G airplane with a 50,000-foot ceiling. With a 2,000-mile range, the company says X-BAT would have a 1,000-nautical mile combat radius.

The Air Force has been developing CCAs for several years now—semi-autonomous drones meant to fly alongside manned fighters into combat. The service has selected Anduril and General Atomics to compete for the airframe portion of "Increment 1" of the program.

Asked if Shield AI is planning to compete for Increment 2, still in development, Senior Vice President of Aircraft Engineering Armor Harris said that the company "began customer engagements earlier this year and they are going very well. We can't say anything other than that."

Besides the Air Force, both the Army and Navy have expressed varying levels of interest in CCAs. Other countries like Australia, the Netherlands, and the United Kingdom, are also exploring the concept.

"At the core of X-BAT is Hivemind, Shield AI's AI-enabled

autonomy software built for GPS- and comms-denied environments, allowing X-BAT to penetrate contested battlespace, team with manned aircraft, and execute collaborative tactics without constant comms," the company said. The General Atomics' CCA entry, the YFQ-44A, also uses the Hivemind system.

The company also has some drone experience with the much-smaller V-BAT, which has been used in Ukraine.

Shield AI is in discussions with various potential partners for production of the X-BAT airframe and propulsion system and expects to announce those partnerships in the coming weeks. A first flight using the VTOL system is expected next year, and an all-up demonstration is targeted for 2028.

With supersonic speed, the X-BAT would be able to keep up with crewed fighters, a capability lacking among the raft of new CCA entrants in recent months. While those other aircraft are all using variations of business jet engines, the X-BAT would use either a Pratt & Whitney F100 or GE Aerospace F110 engine; the same powerplants used on F-15 and F-16 fighters. Shield did not say whether it plans to source the engines new or from old stock in storage, but company officials have said the engine will be fitted with a proven 3D, thrust-vectoring nozzle, both to aid its maneuverability and enable its tail-sitter landing system.

Besides speed, using a fighter-class engine will provide "reliability, maintainability, and logistics maturity," Shield AI said.

The cost of the X-BAT is to be about $27 million; right around what the Air Force originally said it expected a CCA to cost, although Air Force Secretary Troy Meink has recently said he would like CCAs at a substantially lower price point.

The X-BAT could be well-suited to the Air Force's Agile Combat Employment model, which calls for small units operating from widely dispersed and potentially austere locations, moving frequently to complicate adversary targeting by long-range surface-to-surface and air-to-surface missiles. Being runway-independent means the craft can launch and recover from places not normally associated with air operations.

In making the announcement, Shield AI president and co-founder Brandon Tseng said that "airpower without runways is the holy grail of deterrence. It gives our forces persistence, reach, and survivability, and it buys diplomacy another day." He called the aircraft "transformative" because of its differentiating characteristics.

Shield AI is touting the X-BAT as able to handle "strike, counter-air, electronic attack, [intelligence, surveillance and reconnaissance] missions, and more. The company said it will be "affordable and attritable, built to deliver fighter-class performance at an order of magnitude lower acquisition and lifecycle cost than fifth-generation jets."

Shield AI

Shield AI's X-BAT joins a crowded field of contestants for the Air Force and Navy's attention as a future Collaborative Combat Aircraft.

Besides stealth and autonomy, the aircraft will employ "adaptive tactics" to ensure its survivability. Its autonomy will also permit it to keep operating "in denied, degraded, and comms-limited conditions," the company said. The aircraft is to have an open architecture and the AI onboard is "platform agnostic" to integrate with current and future concepts.

Launched and recovered vertically on a trailer, the X-BAT has a 39-foot wingspan and a length of 26 feet, putting it in the same size class as an F-5 fighter. Animated videos showing the concept in action show it possibly carrying the AIM-120 AMRAAM missile and the Navy's new AIM-174B "Gunslinger" very long range air-to-air missile, based on the Standard Missile-6. Artwork on Shield AI's website shows the CCA with a wide range of small munitions. External carriage of some munitions is also possible.

Company officials said they expect to build multiple launch-and-recovery trailers for each aircraft, to multiply the places where the X-BAT can land and subsequently fly again.

X-BAT is just the latest CCA concept to break cover recently. In September, Lockheed Martin unveiled its subsonic "Vectis" stealth drone, and Lockheed's Sikorsky unit recently unveiled the rotor-propelled "Nomad" vertical takeoff/landing CCA family, ranging from a wingspan of 10 to 55 feet, and aimed at missions ranging from logistics support to kinetic attack.

PERSONNEL

New Religious Accommodation Rules for Beards

By Matthew Cox

Airmen, Guardians, and other service members that wear beards for religious reasons will be deemed non-deployable as part of Defense Secretary Pete Hegseth's sweeping crackdown on shaving waivers—a move that would essentially end their careers and one that several former Air Force officials say may go too far in trying to restore grooming standards across the military.

In September, Hegseth told hundreds of senior leaders that he is ending the "era of rampant and ridiculous shaving profiles" in an effort to tighten grooming standards that leaders have failed to enforce over the years. A subsequent Sept. 30 memo on "Grooming Standards for Facial Hair Implementation" prohibits beards, goatees, and other facial hair that could interfere with a proper seal on a chemical protective mask or firefighter respirator. Beard waivers for religious accommodations "will be limited to non-deployable roles with low risk of chemical attack

or firefighting requirements," the memo states.

"In an era of increasingly complex operational demands—including high-tempo deployments, multi-domain warfare, and expanded emergency response roles—strict grooming compliance ensures personnel can safely and effectively employ protective equipment," the memo states.

Mustaches are still authorized but must be neatly trimmed and not to extend past the mouth corners or into the mask's seal zone, according to the memo.

Service members failing to comply with Pentagon's new beard policy will be flagged as nondeployable, a status that makes Airmen and other service members vulnerable to administration separation if they go 12 consecutive months without deploying.

The effect on careers is significant, said former Chief Master Sergeant of the Air Force Gerald Murray.

"Having a beard for religious accommodations should not affect your deployability," said Murray, who retired in 2006 after serving 29 years in the Air Force. "That is not fair, and that is not the way to do it."

Retired Air Force Maj. Gen. Randall E. Kitchens, former Air Force Chief of Chaplains, said he is hopeful that service members that are required to wear beards as part of their faith will be evaluated fairly during the individual review process.

The language appears to follow "all the proper steps; the only concern that I have is that 'approvals will be limited to nondeployable roles,'" Kitchens said, adding that "it's too early to tell if that is fair or not."

That being said, Kitchens said he remembers when the U.S. military did not grant religious accommodations before 2010.

"To me, the religious accommodation piece was vitally important because there were religious requirements that were not being allowed," said Kitchens, who now serves as the National Chaplain for the Air Force Association. "Looking at it from a First Amendment right … our Muslim chaplains, Jewish chaplains, and our Sikh personnel that have that religious requirements were being denied that."

From a practical standpoint, former Assistant Secretary of the Air Force for Manpower and Reserve Affairs Alex Wagner said the memo's argument that beards will prevent service members from obtaining a proper seal on their protective masks is flawed—and thus the decision to make bearded service members nondeployable is unnecessary

"The idea that having facial hair would make you nondeployable, because in a chemical or biological environment, you would not be able to get a seal in your gas mask and would present a risk to others is patently false based on the science," Wagner argued.

A 2018 study of civilians showed that 98 percent of study participants who had one-eighth inch of beard achieved acceptable fits on civilian half-face negative-pressure respirators, comparable to the M-50 gas masks used in the military today. And Wagner said the Army conducted its own research in 2016 when several Sikhs volunteered to test their mask seal in a tear gas chamber at Aberdeen Proving Ground, Md.

"That issue was laid to rest in 2016 when the Army tested the assumption of whether or not Sikhs could get a seal with a gas mask, and they could," said Wagner.

While the former officials wait to see how the religious accommodation process plays out, they did say they saw issues with the existing system that have led Hegseth's crackdown.

"Clearly in the Air Force we have had senior NCOs that felt like that they could not or should not be enforcing standards of discipline," Murray said, clarifying that he's not against legitimate beard waivers for religious beliefs or medical conditions, as long

Alexander Goad

Airman 1st Class Sunjit Rathour was the first Sikh Airman to receive a religious accommodation to grow a beard and wear his turban while in uniform.

as there is a clear "definable standard" that can be easily enforced.

Kitchens also clearly recalls how the enforcement of standards on beards has slipped over the past 15 years.

There were applicants "gaming the system" to use the correct wording to get religious accommodations approved, Kitchens said. Leaders were uneasy about approaching service members if their beard appeared out of standard, fearing complaints of harassment.

The current Air Force's standard states that Airmen wearing beards under religious accommodation must ensure they don't exceed 2 inches "when measured from any point on the neck, chin, or cheeks," according to a July 11, 2025 guidance memo on Air Force DAFI 36-2903, Dress and Personal Appearance.

But supervisors were uncomfortable asking because they "feared that there was going to be a report on them and then an investigation," Kitchens said. "They were not clear on the standard, and who had exception to policies … so they didn't want to go call someone out and then get accused of targeting."

Wagner agreed enforcement has been a challenge, partially because the standards are intentionally broad because of the way the courts have interpreted it on religious accommodations.

"The last thing you wanted, at least in the Air Force, was a first sergeant walking around every time you saw a beard, saying 'show me your papers, show me your papers, show me your papers,'" Wagner said.

Before he left office, Wagner, a political appointee under President Joe Biden, said he was involved in setting up a policy standards working group last fall to ensure standards were enforceable, but he is unsure of the status of the working group effort.

"I think you have to have clearer standards that the decision-makers at the unit level can understand and then enforce. Wearing the uniform matters, having regulations that are enforceable matters. It matters for discipline, it matters for cohesion, it matters for a sense of team," Wagner said.

"All of those things are important values—that said, you have to follow the law, and the law and religious accommodation is crystal clear," Wagner added, referring to the Religious Freedom Restoration Act.

Under the Pentagon's new beard policy, service secretaries have until Nov. 30 to submit implementation plans to the Under Secretary of War for Personnel and Readiness, the memo states, referring to the secondary title for the department that was approved by President Donald Trump.

An Air Force spokesperson did not provide further details about the effort except to say that service does not track the number of Airmen with religious accommodations, since those records are maintained at the unit level.

FACES OF THE FORCE

Staff Sgt. Kellyann Elishx/ANG

Virginia Air National Guard's 192nd Wing recently welcomed its first full-time chaplain, **Capt. KMarie Tejeda**, marking a milestone in its commitment to the spiritual well-being of Airmen. Beyond leading services, she provides confidential support in grief counseling, suicide prevention and resiliency training, reflecting the Air Force's Comprehensive Airman Fitness priorities. With graduate degrees, chaplaincy experience and training with NATO in Finland, Tejeda brings both expertise and compassion to her ministry. Her role strengthens both individual resilience and the 192nd Wing's readiness.

Senior Master Sgt. Dan Heaton/ANG

Staff Sgt. Devin Houle displays readiness during Exercise Bronco at Selfridge Air National Guard Base, Mich., when responding to a simulated jet fuel contamination. While the scenario was part of training, Houle's true achievement lies in balancing dual callings: service and education. After serving more than 10 years on Active duty, he returned home to Michigan, joining the 127th Wing while pursuing a doctorate in physical therapy at the University of Michigan. "Working out in the gym in the Air Force, I just became fascinated with how the body moves and how healing can happen through movement," he said.

Airman 1st Class Rachel Howell

Master Sgt. Justin Heitzmann, 23rd Security Forces Squadron, Moody Air Force Base, Ga., superintendent of plans and programs, made history at the 2025 Air Force Sergeants Association International Convention by becoming AFSA's first International SNCO of the Year. He competed against nominees worldwide, including one of the Air Force's 12 Outstanding Airmen of the Year. "This award represents a culmination of hard work and dedication to the mission displayed by our Airmen and members of our local chapter," Heitzmann said. As president of AFSA Chapter 460, he leads professional development, advocacy and community outreach, ensuring Airmen and families remain supported and empowered.

Staff Sgt. Scott Warner

At Travis Air Force Base, Calif., **Capt. Lily Romine** and **Capt. Chloe Forlini** represent a rare case of twin sisters serving together on Active duty—with the same rank at the same base. Their path began at the Air Force Academy, where playing tennis fostered their drive to serve. "We realized that playing tennis at the Air Force Academy was more than just being a part of a collegiate sports team, but rather we were building lifelong skills of leadership and resiliency," Forlini said. According to the Defense Manpower Data Center, fewer than 1 percent of Americans serve in the military. That makes the twin sisters' shared assignment an extraordinary rarity that underscores both the odds they've overcome and their family legacy.

U.S. Navy photo

After more than 20 years of service in the Air Force, Army National Guard and Army Reserve, **Lt. Col. Valentino Bailey** made an uncommon choice: he left the Army, gave up his rank and joined the Navy as an aerospace operational physiologist. A veteran of multiple deployments to Iraq and Afghanistan, Bailey pursued a second master's degree in exercise physiology before entering the Navy's human performance program, accepting a reduction in rank to lieutenant. "Don't talk yourself out of it. Pursue it. The last thing you want to do is live with regrets," Bailey said of his career shift.

Master Sgt. Benjamin Mota

Tech. Sgt. Abdoulie Bah, a recruiter with the 350th Recruiting Squadron, achieved a milestone reached by fewer than 10 Air Force recruiters in the past 20 years: 100 accessions in a single fiscal year. His accomplishment earned him a place in the elite "Century Club," last achieved by a recruiter in 2014. Originally from Gambia, West Africa, Bah joined the Air Force in 2016 and turned to recruiting in 2023. "I want to thank the 350th RS, the 367th Recruiting Group, and my wife, Fatou Bah, for being there for me and helping me get the job done," he said.

Staff Sgt. Joshua Hastings

Two Whiteman Air Force Base, Mo., health care professionals were honored after rescuing a woman from a burning car on July 9. **Darci Curtis (right),** who works in the base pharmacy, and **Senior Airman Jada McMillan**, a medical technician, pulled 23-year-old ShiAnn Bedwell to safety moments before her vehicle was engulfed in flames. The pair received the key to the city Sept. 2 from Sedalia Mayor Andrew Dawson. Bedwell's mother, Melissa Johnson, praised their actions during the ceremony. "If it had not been for two girls that were strong, ... my daughter could be terribly maimed and all of our lives be changed forever," she said.

Airman 1st Class Aaron Hill

Master Sgt. Sarah Bordges (center), 5th Logistics Readiness Squadron, Minot Air Force Base, N.D., has been named the Air Force's 2025 First Sergeant of the Year. Bordges received a medal of achievement from AFGSC Commander Gen. Thomas Bussiere (left), and AFGSC Chief Master Sgt. Shawn Aiello. First sergeants serve as senior enlisted advisers and act as a commander's key link to Airmen. They provide support for health, morale, training and welfare, and make themselves available 24/7 to help with issues Airmen and their families may face. Bordges, who has been stationed at Minot for two years, was honored for her dedication to the role and caring for fellow Airmen.

Tell us who you think we should highlight here. Write to letters@afa.org

The PAC-3 MSE is a highly sought-after air defense munition due to its advanced capabilities and versatility. As a next-generation interceptor, it offers improved range, speed and maneuverability, making it an effective counter to a wide range of threats, including tactical ballistic missiles, cruise missiles, and aircraft.

Realistic Expectations for Golden Dome by 2028

The blueprint is coming into focus; the road map remains cloudy.

By Maj. Gen. Thomas D. Taverney, USAF (Ret.)

Golden Dome is one of the most ambitious defense projects ever mounted. It seeks to develop a missile defense shield for the entire continental United States (CONUS) against ballistic, hypersonic, and cruise missile threats and to defend against air and UAV threats. To be an effective deterrent, it must also protect U.S. interests outside CONUS (OCONUS), or those locations will be under significant threat.

The Golden Dome concept and capability is hugely important: In enabling such a defensive umbrella, it would free the United States from ever being held hostage to nuclear threats from peer competitors like Russia and China, and diminish the threat posed by rogue nations such as Iran and North Korea. President Donald Trump committed to make significant strides in Golden Dome by the end of the current administration and must, at a minimum, establish a strong baseline for Golden Dome by that point if the program and its objectives are to endure into the next administration.

To defend against the full range of threats, the Golden Dome system will have to be capable of handling different missile types and phases of flight.

While the United States aspires to creating a protective scheme akin to Israel's Iron Dome, the scale of the challenge is significantly greater: Israel defends 834 miles of border (664 miles on land and 170 miles on the seashore). By contrast, the U.S. must defend a territory roughly 16 times as large: 13,699 miles of border (7,896 miles on land and 5,893 miles of coastline). Add in Alaska, Hawaii, U.S. possessions and close allies and that balloons to as much as double the territory. The threat picture is also growing with hypersonic missile threats, mass cruise missiles and UAV volleys and UAV swarms that make creating an effective shield that much harder. The three most challenging elements for Golden Dome will be: (1) The ability to intercept concentrated missile volleys attacking small geographic penetration points without exhausting its defensive capabilities; (2) The ability to affordably field enough space-based interceptors to be effective when our adversary can choose the engagement timeline; and (3) The ability to provide an effective battle management command, control & communications (BMC3) capability to handle these complexities.

Golden Dome's architects do have some marching orders. They have been directed to look at "boost phase"

Eric Dietrich

Golden Dome leader Gen. Michael Guetlein has made no public statements since taking charge of the future missile defense program, as he and his team work to define requirements and objectives.

(the brief period after a missile launch, while engine is still firing) and "left-of-launch" intercept (that is, striking prior to launch, when the target is still stationary). Since orbits are predictable and adversaries can time their attacks to their best advantage, every enemy missile launch site would have to be covered by U.S. interceptors all the time. When added to the fact that our adversary can launch in volleys, this requires a lot of space-based interceptors. While this may be technically possible, it presents a significant financial challenge. While above ground launch systems and facilities are soft and easily negated, "left-of-launch" coverage also raises two other significant challenges: First, is whether the nation is willing to attack an adversary's territory based on the assumption, even if that is well founded, that an attack is imminent; and second, penetrating hardened missile silos would be a huge technical challenge.

Two keys lie ahead if the Golden Dome is to be a success. It will require open architecture that can integrate existing technologies and systems as well as future capabilities. Existing assets already in place will be the core of the system at the start, but the importance of integration to assure the current architecture and future additions will all work together seamlessly within a single concept of operations (CONOPS) cannot be overstated.

Also key is an "all-hands-on-deck" partnership with industry, aligning prime contractors, subcontractors, payload providers, technology vendors, commercial space operators and non-traditional defense companies.

Golden Dome touches on many players, including the Army, Navy, Air Force, Space Force both Space Systems Command (SSC) and the Space Development Agency (SDA), and the Missile Defense Agency. While having Gen. Michael A. Guetlein reporting to the deputy secretary and having been vested with independent acquisition authorities to streamline the competition and operate above the bureaucracies was crucial, so too will be building a frequent and close relationship with Congress. To meet tight schedules, some compromises will have to be made. And the support of Congress will be essential. The demands on General Guetlein's time will be enormous.

While the schedules and costs may be challenging, the capabilities I discuss below are achievable and the technology is available. But the huge number of stakeholders, along with budget and schedule pressures, not technical matters, will be the biggest challenges.

Gold vs Iron

Israel's Iron Dome air defense system defends an area roughly the size of New Jersey. The Golden Dome shield must defend an area 16 times larger.

Maps drawn to same scale. Israel shown in red.

ISRAEL'S MISSILE DEFENSE

Israel employs a layered missile defense system designed to intercept a wide range of threats, from short-range rockets to long-range ballistic missiles. The elements of that defense are:

- Iron Dome. Designed to intercept short-range rockets and artillery and mortar rounds. Primarily protecting populated areas.
- David's Sling (Magic Wand). A medium-to-long-range system capable of intercepting tactical ballistic missiles, long-range rockets, aircraft drones, and cruise missiles, as well as large-caliber rockets.
- Arrow System (Arrow 2 and 3). Developed with U.S. support to intercept long-range ballistic missiles at high altitudes and potentially function as an anti-satellite weapon. Arrow 3 can operate in space.
- Iron Beam. A high-powered laser system is being developed to intercept rockets, drones, and anti-tank missiles at a range of about 4-5 miles.
- C-Dome. A naval version of the Iron Dome protecting ships and offshore assets.
- Terminal High Altitude Area Defense (THAAD). The U.S. has

Range Comparison

Golden Dome will draw together capabilities from multiple existing and future systems. How five U.S. anti-missile interceptor systems compare in terms of range and mission.

System	Intercept Phase	Targets	Range
Patriot	Terminal	SRBM/MRBM	40 km
THAAD	Reentry	SRBM/MRBM IRBM	200 km
AEGIS/SM-6	Terminal	MRBM/IRBM	240 km
AEGIS/SM-3	Midcourse	MRBM/IRBM ICBM/ ASAT	15,00 km
GBI (ground-based interceptor)	Midcourse	ICBM	3,000 km

also provided support for Israel's defense, including deploying THAAD systems, which can intercept ballistic missiles both within and above the Earth's atmosphere.

■ TPY-2 Surveillance Transportable X-band (8.55-10 Ghz) Radar. A long range (3000 km), very high altitude active digital antenna array that in Israel supports the Arrow 2 and Patriot Advance Capability 3 (PAC3) interceptor systems.

These systems form a layered defense to provide Israel with a comprehensive shield against aerial threats. However, no missile defense system can guarantee it will intercept 100 percent of incoming rounds; some missiles have breached Israel's defenses. The high cost of operating these systems, especially Iron Dome, is also a consideration.

CURRENT US MISSILE DEFENSE SYSTEMS

The U.S. has several missile defense systems, including land-based, sea-based, and space-based systems. These include missile interceptors, sensors and radars.

Missile Interceptors

■ Ground Based Missile Defense (GMD). Originally dubbed the National Missile Defense, GMD is designed to intercept ballistic missiles in the midcourse phase of flight using a hit-to-kill kinetic projectile. The system includes 44 interceptors, early warning sensors, and targeting sensors based on land, sea, and in orbit. Designed to protect the U.S. mainland from an unsophisticated limited nuclear attack, GMD lacks the capacity necessary to defend against an all-out attack, given the limited number and location of deployed interceptors.

■ Aegis Ballistic Missile Defense (ABMD). Also known as Sea-Based Midcourse, this system is designed to intercept short- and intermediate-range ballistic missiles in their midcourse phase. ABMD is part of the Aegis combat system deployed on Navy warships and can use Standard Missile 3 interceptors in the midcourse phase and Standard Missile 2 and 6 interceptors in the terminal phase.

■ Terminal High Altitude Area Defense (THAAD). This system is designed to intercept short-, medium-, and intermediate-range ballistic missiles, both inside and outside the atmosphere. THAAD is deployed in Europe, the Middle East, and Asia.

■ Patriot Advanced Capability (PAC-3). The land-based PAC-3 is one of three tactical anti-ballistic missile systems now in use.

Sensors and Radars

A combination of sensors and radars on land, in space, and at sea work together, providing early warning in case of attack and to track and discriminate among incoming missiles should an attack unfold. These include:

■ On the ground: Upgraded Early Warning Radars (UEWRs) and mobile phased array AN/TPY-2 radars.

■ At sea: Sea-based X-band radar (SBX) and Aegis SPY phased array radars.

■ In space: Defense Support Program (DSP) and the Space-based Infrared System (SBIRS) satellites.

■ "Left-of-launch" sensing, using electronic and signals intelligence, is another valuable source of intelligence.

These assets are operated through integrated command, control, battle management, and communications (C2BMC) systems that integrate sensor data and manage the interceptors. As a multilayered defense network, it faces challenges with emerging threats and is subject to continuous development and adaptation. Primarily designed to defend against ballistic missiles, it is being adapted to also counter cruise and hypersonic missile threats. While tests have shown some success, particularly with the SM-3 Block IIA against an ICBM-class target, effectiveness against large-scale, sophisticated attacks from major adversaries like Russia and China is limited. The system is continuously evolving and being upgraded to counter new threats and technologies.

THREAT SCENARIOS

Today's emerging threats include hypersonic and hypersonic glide missile threats that can be launched from anywhere in the world at any time, from submarines, ships, aircraft, and even from space. These threats can be dim and can fly deep in Earth's clutter, and because they can maneuver without engine firings, they are very hard to find, fix, and track. Additionally, the space systems that must find, fix, and track these weapons are themselves under threat, as a wide variety of offensive space capabilities are now within the grasp of adversaries, ranging from direct ascent anti-satellite missiles to co-orbital weapons that include direct-impact kill vehicles, kidnapping (grappling a satellite and moving it to a different orbit or spinning it), electronic jamming, spoofing, cyber weapons, and even the potential of nuclear detonation in space. These threats also include ground-based lasers that can dazzle and, in the future, more powerful lasers may be able to damage optical systems.

The U.S. Space Force must not only be able to survive such threats but also counteract various levels of conflict. To defend against even a few of these threat scenarios is a boon to U.S. security, as a partial solution is better than none, even as we move toward a full defense. Costs and funding will always be a factor, so some progress and covering down on these threat scenarios would be progress for our nation as we approach defense against all threat levels.

Five types of nuclear attack scenarios must be addressed:

■ Level 1—Terrorist stolen/acquired weapons. Terrorists using captured or built nuclear weapons. Will be limited in number.

■ Level 2—Attack by nascent nuclear countries (North Korea, Iran, etc.).

■ Level 3—Theater attack against deployed forces, or against other allied interests outside of the CONUS.

■ Level 4—Limited nuclear attack: A peer adversary wants to send a message short of all-out nuclear war with a limited attack and the implied threat of escalation.

■ Level 5—Full-scale nuclear war: Large-scale use of nuclear weapons targeting military, economic, and civilian infrastructure, likely leading to widespread destruction.

Golden Dome must address all five. While the ability to handle all-out nuclear war (Level 5) may not be feasible by 2028, the ability to defend against lower-level threats (Level 1, 2, 3, and 4) is a good goal while we build the future infrastructure to handle Level 5 in the future. And even as we build toward Level 5, we understand that 100 percent success will not likely be feasible, and

the costs of getting there may be unachievable. However, having a homeland defense that can protect against even a limited attack adds to both deterrence and assured availability of capability. We must be able to defend against anything (capability) and everything (capacity) that the North Koreans or Iranians could attack us with. And we need the ability to technically defend against anything (hypersonics, FOBs, etc.) that the Russians or Chinese can use and have enough capacity (numbers) to strengthen our deterrence, even if we can only partially negate a Level 5 threat. It also adds to our ability to control escalation in a theater exchange scenario. Most importantly we need enough capability in place to deter what appears to be both Chinese and Russian coercive strategies.

Additionally, there are multiple phases of the threat that all have different levels of vulnerability and/or complexity. Regarding left of launch (before the missile launches), its major technical challenge is that the missiles are likely in hardened silos, or mobile under the ocean. During boost phase and early midcourse (before Multiple Independently Targetable Reentry Vehicles (MIRVs) and decoys are deployed) is the most vulnerable period for these threats. Late midcourse is complex because the decoys and MIRVs have deployed, so targeting the threats themselves is challenging. And finally, reentry intercept is something we have mastered, but volleys add the cost impact of sufficient interceptors in an affordable fashion.

PLANNED SYSTEMS

In addition to the existing systems, much is going on in the space sensing world. SDA and SSC are pursuing new space-based sensors that are resilient, proliferated, have orbital diversity, and are affordable to populate large constellations for both missile warning/missile tracking (MW/MT) satellites along with missile defense fire control (MDFC) satellites. While still in the early stages this constellation will provide a resilient solution for Space Based MW/MT/MDFC. There could be value in accelerating but the supply chain is the limiting factor in building these satellites.

As we move to an effective mid-course intercept capability, we will need a space-based discrimination Long-Wave Infrared (LWIR) midcourse surveillance system. The Missile Defense Agency (MDA) is working on a discriminating LWIR midcourse surveillance system. There are also existing sensing assets for left of launch that exist in the Intelligence Community (SIGINT & ELINT). As threats become dimmer and more complex, there may be ultimate value on a MEO-based midcourse system.

GAPS AND CHALLENGES

There are gaps in what existing systems can detect and defend against. The U.S. has no low-cost intercept capability to defend against large attack volleys/swarms in a small geographic area. There is no current operational LWIR discriminating midcourse surveillance system. The U.S. currently has no space-based interceptors for boost or early midcourse intercept, and no means to rapidly strike hardened targets immediately prior to launch—left of launch. Additionally, our adversaries have weaponized space putting current and future space-based capabilities at threat,

While U.S. defenses include midcourse ground-based interceptor (GBI) systems, this capability is in need of upgrade with a multiwarhead system (next generation interceptor, known as NGI) being built by Lockheed Martin. NGI should be made transportable to complicate adversary targeting and provide OCONUS capability. Also needed is a method to integrate left-of-launch sensors into the missile defense system.

Another new and challenging capability needed is a BMC3 system capable of handling such a complex system of systems, deployable interceptors for vulnerable overseas bases and facilities, and laser intercept capabilities for short-range targets. Fortunately, the U.S. has the technology to answer these challenges. While the compute power is not available to do this on-orbit as yet, a ground version is well within U.S. capabilities. When space has the capability to update interceptors in-flight that will become useful.

It is likely that a significant portion of a resilient space sensing layer will consist of proliferated constellations capable of not just finding, fixing, and tracking ballistic, hypersonic, hypersonic glide, and cruise missile threats, but also being able to absorb losses and continue the mission. Stopping incoming threats is the biggest challenge, and doing so efficiently is crucial.

We need to carefully investigate and analyze the potential of laser interception. Israel has a short-range laser intercept system capable of short-range intercept (4 to 5 miles) of relatively soft targets. Lasers have the potential to reduce the number of interceptors required by being able to expend multiple shots from a single laser, but reentry vehicles are hardened to withstand the high temperatures of reentry, and may not be susceptible to lasers given the current state of the art. We also need to investigate the potential of lasers in space as interceptors.

Building a large, complex structure like a Golden Dome for the U.S. presents numerous challenges, encompassing technological, logistical, financial, and political aspects.

Strategic Challenges

A Golden Dome system would be vulnerable to a concentrated swarm or volley attack, in which many interceptors are launched over a small geographic area especially in a Level 5 threat. The U.S. will have to prioritize its defenses, requiring choices between cities, for example, and critical infrastructure. Our ability to have an assured and devastating response means missile fields, bomber and submarine bases, and nuclear command and control systems must be protected. The answer to such questions may limit the size and scale of whatever space-based system we deploy.

To defend against the full range of threats, the Golden Dome system will have to be capable of handling different missile types and phases of flight. To achieve that, we must move GBIs to mobile/transportable TEL launchers with multiple interceptors per vehicle—NGIs—allowing flexibility and agility to adapt to changing threats and the ability to be moved to OCONUS locations that must be defended. Having interceptors in California and Alaska is not adequate to respond to mobile threats launched from aircraft, submarines, ships, and space itself, which can just as easily target the east, south, and central portions of the country.

Technological Challenges

While the U.S. already has a robust group of interceptors that cover terminal to late midcourse, space-based interceptors for early midcourse and boost phase need to be designed and developed. As threats of swarms/volleys over small geographic areas need to be defended against, some affordable advancement in missile intercept technologies also needs to be developed. We can certainly build demonstrators of space-based interceptors for boost phase and early midcourse intercept. However, since our adversaries get to select the engagement timeline, they will be minimally effective against major raid sizes but could have useful early midcourse capability and could destroy smaller-sized threats before late midcourse. As we progress to larger constellations of space-based interceptors we can use swarms of intelligent space-based interceptors as well as a mesh, peer-to-peer network with artificial intelligence to maximize

Lockheed Martin

The Space Development Agency and Space Systems Command are working on early warning systems as part of the Golden Dome's many assets such as in the SBIRS Missile Warning Satellite built on the new, more resilient LM 2100 Combat Bus pictured here.

effectiveness even against salvos of threat missiles.

While the U.S. possesses the ability to build space-based interceptors, the number required and the cost per interceptor will be daunting if we must defend against a Level 5 threat. They get to select the engagement timeline; however, this is imminently doable for lower threat levels where this is just one element of a layered defense.

Lasers offer potential but may not be feasible against hardened reentry vehicles. Implementation of an Israeli-like Iron Beam with limited range (4 to 5 miles) against drones and soft cruise missiles should be done and can be done with low risk and minimal cost.

Golden Dome envisions a vast and intricate network of space-based assets (sensing systems and interceptors), ground infrastructure (including current data analysis and distribution), and existing defense systems operating in concert. Providing BM/C3 with such a complex arrangement is a significant challenge. The big decisions will be how much of this must have a person in the loop and how much can be implemented through machine learning or AI. Command and Control is managing a complex system of interconnected space-based assets and ground infrastructure for missile detection and interception requires a highly sophisticated command and control system capable of rapid data processing and decision-making in near real time. Because of the speed of war, it would be preferable to have the BMC3I capabilities in space, but for now it will have to be in the ground.

First, the service-oriented architecture (SOA) in space-qualified processors are vulnerable to cyberattacks, jamming, and spoofing. Second, current comm links in space are challenged maintaining the high bandwidth from hundreds of satellites across vast distances. Finally, most importantly, the current SOA in space qualified processors cannot handle the vast amount of incoming data and do the necessary processing to make crucial BM/C decisions in real time.

Logistical and Production Challenges

The backbone for Golden Dome in the early phases will be ground-based radars and interceptors built on current capabilities supplemented by the ever-growing space-based sensing capabilities. As these capabilities get modified to meet Golden Dome needs, space-based interceptors and midcourse surveillance systems will start to come online. However, the increased demand for improved ground-based elements of Golden Dome are likely to be hindered by existing supply chain issues and missile production backlogs. The defense industrial base lacks capacity and may require significant revitalization to meet demand for sensors, interceptors, and other components.

Cost is another key logistical challenge. Golden Dome will be expensive, with estimates ranging from $175 billion to potentially trillions of dollars. The vast range of estimates underscores the complexity and uncertainty inherent to such a project. Securing sufficient and sustained funding from Congress for such a large-scale project is crucial, and debates over the budget and resource allocation are likely to be significant. This means that an evolving system that can slowly move from handling Level 1 threats and escalate up the scale as funding permits is the likely path.

With cost comes political headwinds. Maintaining political will and prioritization for Golden Dome across presidential administrations is a key unknown. The program could be terminated by a future Congress or President. Interagency differences will produce their own politics and already faces headwinds from doubters. Golden Dome will have to bridge many programs, agencies, and armed services, requiring effective interagency/interservice coordination and cooperation. Getting Congress and key stakeholders moving in the same direction in tight coordination will be essential for success and will require that the Golden Dome executive office have the appropriate authorities to make and rapidly promulgate decisions.

WHAT IS POSSIBLE IN 2028

President Trump has set a goal to have some capability in place before the end of his term, which ends in January 2029. It is unlikely that we will be able to affordably intercept a Level 5 threat of concentrated swarms/volleys over small geographical areas.

Looking through the next three-plus years, the U.S. should push to develop the basic infrastructure necessary to support a functional Golden Dome system of systems, including a military satellite network capable of tracking numerous incoming missiles. A focus on defending against levels 1, 2, and 3 should be prioritized, with the goal of adding capability for more complex threats over time.

I believe there is much that can be accomplished by then. We

Dave Grim/USSF

An Upgraded Early Warning Radar (UEWR) facility at Cape Cod Space Force Station, Mass., in 2024. The mission, performed by 6th Space Warning Squadron, Space Delta 4, Buckley Space Force Base, Colo., looks to surveil air and space to detect missile launches and high-interest satellites at New England's first Space Force installation.

can begin modifying our ground radars, we can begin modifying our ground-based missiles and maybe even get to demonstrate a strong path forward for multiple interceptors per GBI missile. We can start the program for a midcourse surveillance system and be well along to deploying an initial capability and can likely get on orbit a space-based interceptor, and possibly be able to demonstrate a boost/ascent, early midcourse capability.

Initial traditional interceptor deliveries: MDA is projected to begin delivering initial interceptors for the Next-Generation Interceptor by the fourth quarter of fiscal 2027, ahead of schedule. Expanding GBIs to mobile/transportable platforms for agility and flexibility increases ability to defend overseas interest and include the developing NGI capabilities for multiple interceptors per launcher is also possible by 2028.

With all of that the U.S. can make great progress on Level 1 through Level 3 threat scenarios, meaning the ability to counter limited threats from terrorists, nascent nuclear powers like North Korea, or theater-level attacks against deployed forces. To be able to handle more complex hypersonic or swarm attacks from the likes of China or Russia will require more time.

Setting achievable goals over the short term (current administration), midterm (through the next administration), and long term (enduring) will be a journey unto itself.

Other capabilities within reach:

- Continued and escalated development of the Space Sensing layer, getting more MW/MT systems on orbit quickly using current proven technology.
- Integrated data systems related to missile warning/missile tracking-Missile Defense, Fire Control Tracking, midcourse surveillance, ground-based midcourse interceptor design and development plan, design, and costs for developing space-based weapons.
- A ground based BMC3 system capability.
- Upgraded and integrated land- and sea-based air defense systems.
- Development of some space-based components integral to Golden Dome, including getting space-based interceptors to leverage boost phase and early midcourse intercept.
- Integration of IC sensors for left-of-launch monitoring.
- Ground based laser system for drones and soft cruise missiles—replicate Israel's Iron Beam.
- Cyber, jamming, spoofing defenses against ongoing and escalating attacks.
- The ability to handle lower-level attacks.

What is less likely by 2028 is a fully operational system, certainly on a scale to defend against Level 4 and 5 threats. It will take longer to develop the ability to defend against these more complex and challenging threat levels, including volleys and swarms; space-based interceptors in the volume needed to be effective against the higher levels of threats. Testing, on the other hand, is well within potential reach, provided funding is secured.

The project's ambitious timeline and the complexity of developing and deploying a layered missile defense system of this scope will have to overcome a host of challenges, likely surprises, and potential delays and cost overruns. Overall cost considerations will be a long-term challenge. Yet there is little doubt that a Golden Dome system can increase both strategic stability and deterrence. A strong missile defense system discourages the lower threat levels and small state and non-state capabilities such as North Korea and Iran to attack. Along with our major adversaries (China and Russia) from conceiving of first strike risk-taking—as long as the U.S. gets initial Golden Dome capabilities and retains an assured and existential response capability.

Golden Dome will go a long way to steady the current uncertain nature of the world stage, where China (especially) and Russia can hold U.S. assets and interest at significant threat and risk. This will allow the U.S. to maintain "strategic stability" (a posture of missile defense combined with a nuclear retaliatory capability that discourages adversaries from risking a first strike on the U.S. homeland).

I believe that Golden Dome has the right leadership under General Guetlein with the right reporting and acquisition authorities, a strong commitment from the administration, a strong commitment of the other services and agencies that are committed to collaboration and success, and an industry of defense companies and commercial companies ready to go with amazing innovation capabilities. The U.S. can put in place both a significant and impressive near-term capability by the end of 2028, along with the underlying architecture plan necessary to develop an effective long-term system. As long as our expectations are realistic and goals achievable this will be an important and exciting time for the U.S. and will again put us at the forefront of innovation and again put our nation in a time of assured peace.

***Thomas "Tav" Taverney** is a retired Air Force major general and former vice commander of Air Force Space Command.*

A Russian Tu-95 bomber was intercepted over the Bering Sea by an American F-16 after crossing into the Alaskan Air Defense Identification Zone. Rising concern about missiles and planes attacking across the Arctic are driving increased investment and concern.

DOD photo

Homeland Sanctuary Lost: Securing the Arctic Flank

The time is now to rebuild our northern tier defenses.

By Brig. Gen. Houston Cantwell, USAF (Ret.)

Modern adversaries like Russia and China spent the past three decades developing and fielding advanced weapons capable of striking the U.S. homeland. Today, their advanced nuclear and nonnuclear missiles have the range and capability to hold vital American centers of gravity at risk from thousands of miles away, making U.S. military and civilian targets more vulnerable to aerial attack than ever before.

The advent of operational hypersonic missiles is especially concerning, potentially enabling Russian aircraft to strike New York or Washington, D.C., in less than 60 minutes from launch to delivery. Advanced cruise missiles able to transit thousands of miles, fly unpredictable flight paths under existing radar coverage, and cause potentially disastrous effects are now available in high volume and at low cost, posing another significant effect. The current decimation of major Ukrainian targets offers a warning about what the U.S. could face in a future conflict.

Nowhere is America's exposure to attack more acute than from its Arctic approaches—the most direct corridor through which both Russia and China could strike the United States. Alaska, America's Arctic outpost, has long been seen as a key strategic site. "I believe that in the future, whoever holds Alaska will hold the world," airpower pioneer Gen. Billy Mitchell told Congress in 1935. "I think it is the most important strategic place in the world." Ninety years later, at his confirmation hearing in October, incoming Air Force Chief of Staff Gen. Kenneth Wilsbach was asked if he agreed. "I do believe," he said, "that it is the most strategic spot on Earth." The Cold War saw the United States develop and operate extensive early warning systems to ensure the military could detect Soviet bomber aircraft far across the Arctic region. Those systems aged out, however, and are no longer operable. More important, today's threats are more varied, harder to detect, and less predictable than the weapons of the Cold War era. Today's Arctic domain awareness (ADA) capabilities and capacity are woefully insufficient to the threat.

A modern, effective enterprise must detect, track, and analyze military movements and other activities in real-time using a variety of air, surface, and space sensors to collect and share information from multiple azimuths. It is time for the United States to rebuild its northern tier defenses.

MITCHELL INSTITUTE
Policy Paper
Homeland Sanctuary Lost: Urgent Actions to Secure the Arctic Flank
Key Points

Brig. Gen. Houston Cantwell, USAF (Ret.) is a Senior Resident Fellow for Aerospace Studies at AFA's Mitchell Institute for Aerospace Studies. Download the entire report at *http://MitchellAerospacePower.org*

The Military in the Arctic Region

Eight nations border the Arctic Sea, each with their own military installations to watch the region. This map shows how close these military installations are.

Source: National Geospatial-Intelligence Agency, from the Department of the Air Force Arctic Strategy, 2020.

At a macro level, addressing America's Arctic vulnerabilities means improving the overall sensor network, enhancing information sharing between organizations, and promoting Arctic nation collaboration. A successful upgraded enterprise must deter Arctic threats, ensure early warning of advanced airborne threats, give decision-makers sufficient time to react and respond, and set the conditions to defeat adversaries if required.

The North American Air Defense Command (NORAD) was established in 1958, creating a combined U.S.-Canada capability to jointly defend the continent. The command's sensors were capable of detecting Soviet bombers armed with gravity bombs if they dared fly attack routes across Canadian and U.S. airspace. It developed a command and control network that shared information fast enough to respond to the inbound aircraft. A close binational relationship, a robust radar network, and the ability to share information at a speed relevant to military decision makers formed the basis of this successful North American air defense partnership. "For decades, NORAD has relied heavily on the North Warning System (NWS) arrayed along the Arctic coasts of Canada and Alaska to detect potential airborne threats to North America," said Gen. Glen VanHerck, then-commander of NORAD and U.S. Northern Command in March 2023. "It is clear that our competitors possess long-range strike capabilities that could be used to attack the United States and Canada from outside the detection range of legacy sensors."

Much of NORAD's sensor- and information-sharing networks are no longer relevant to 21st-century threats. Russia and China spent the past three decades developing and fielding advanced weapons capable of striking the U.S. homeland from afar. Now, the Trump administration is signaling an increased focus on such threats, including with its Golden Dome initiative and its renewed strategic interest in Greenland. But any plan to bolster homeland defense must begin with enhancing Arctic security. This initiative must restore Arctic domain awareness by updating NORAD's early-warning sensors, breaking down information stovepipes that slow information flow, and enhancing relationships with NATO Arctic nations.

THE RUSSIA, CHINA ARCTIC THREAT

Russia and China's motivations for increased Arctic presence tie to three main desires: to hold the continental United States at risk for reasons of peer competition; to ensure access to Arctic natural resources; and to ensure access to time-saving maritime Arctic trade routes. Russia's Arctic military activities are particularly aggressive. In 2022, Russian naval doctrine raised the Arctic region to its highest priority, and President Vladimir Putin directed the construction of more than 475 military facilities across the region. Hudson Institute's Liselotte Odgaard observes these Russian installations are protected by a multilayered network of sensors and defense systems to ensure they can generate

military effects on U.S. mainland targets. Roughly two-thirds of the Russian Navy's nuclear strike capabilities are harbored in the Barents Sea, allowing a direct and mostly undetectable path to North America and Europe.

China's foray into Arctic activities cover a spectrum of both civil and military activities including scientific research, trade agreements, public diplomacy, infrastructure investments, and increased military presence. In July 2024, their military activities caught worldwide attention due to their close coordination with Russian forces in the region. A joint bomber task force comprising two Russian Tu-95 strategic bombers and two Chinese H-6 strategic bombers penetrated the Alaskan Air Defense Identification Zone (ADIZ). This was the first time China and Russia conducted a joint air patrol near Alaska and the first time the two countries launched aircraft from the same Russian airfield. The task force was also unique in that it demonstrated a close relationship between the two air forces that had not been demonstrated before. China's Arctic maritime activities are not all civil, either. In 2024, the PRC expanded its maritime military force projection capabilities. Chinese surface combatants deployed to the Bering Sea for the fourth straight year and operated within cruise missile range of critical infrastructure throughout Alaska.

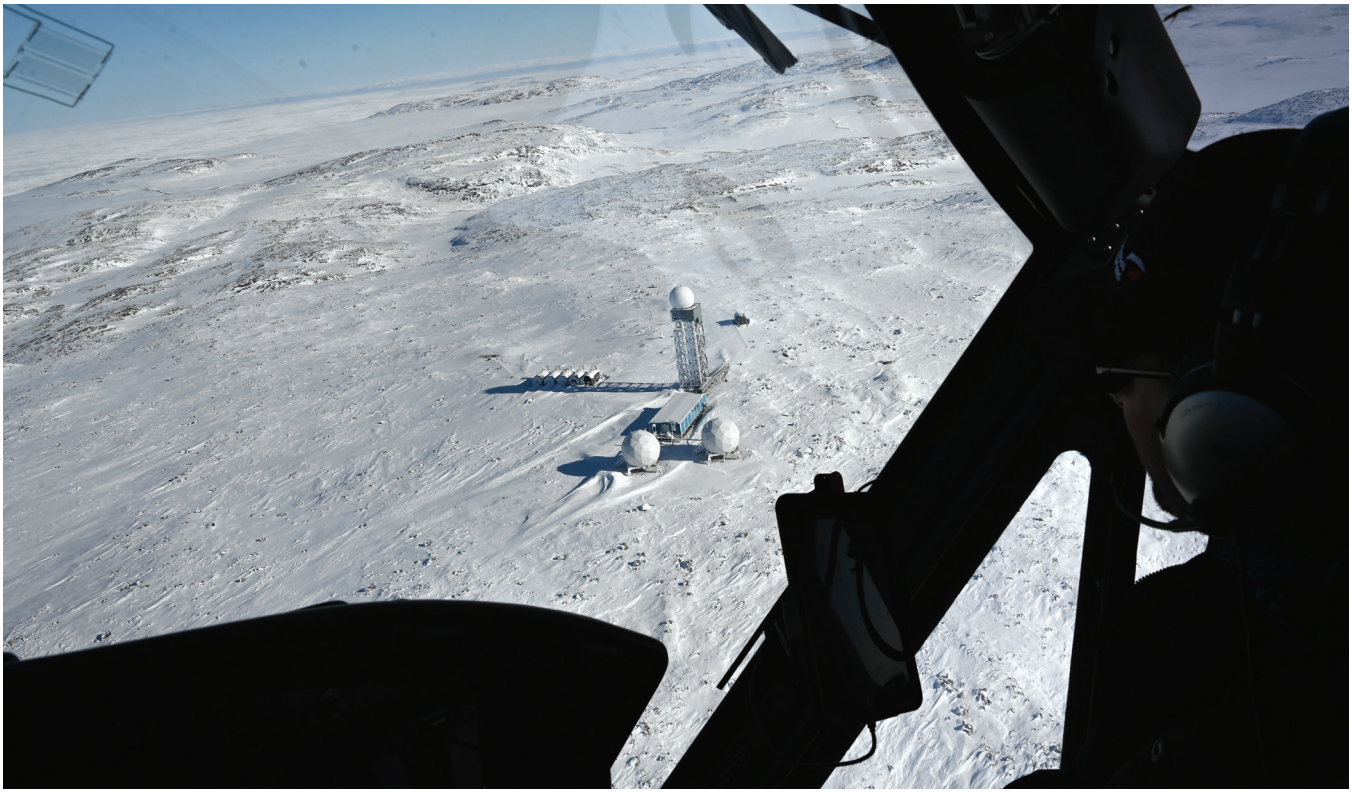
ARCTIC DOMAIN AWARENESS HURDLES

As the threats continue to mount from and through the Arctic, the U.S. capability to detect modern threats wanes. Constructed in the late 1980s, the NWS comprises 47 radar sites across northern Canada and provides an important radar feed into NORAD situational awareness. Designed to detect high-flying nonstealth aircraft, the line of radars can detect aircraft over 100 miles away at altitudes up to 100,000 feet. But, low-flying, stealth, long-range missiles and drones have the ability to evade the system. The radar's lack of range allows strike aircraft the opportunity to remain out of radar coverage while launching their missiles. Aside from air-launched cruise missiles, NWS radars also lack the ability to detect and track advanced hypersonic missiles. Ideally, an NWS replacement would detect modern threats including cruise missiles, hypersonic missiles, and small drones.

Information sharing also remains a considerable hurdle. Multiple command and control seams merge within the Arctic. These seams include three U.S. Combatant Commands and two multi-national commands—NORAD and NATO's Joint Force Command (JFC) Norfolk. This unusually high number of command fault lines makes information sharing between the multiple organizations exceptionally challenging. Former NORAD Commander Gen. Glen VanHerck stated, "[The Chinese balloon incident] is a failure of multiple intelligence, and [Department of Defense] agencies. I should not get surprised by something that's coming into my area of responsibility. … Anybody who knows about it should pass that on. It shouldn't be less than 24 hours' notice." Information exchange seams within the Department of Defense delayed the handoff of this slow-moving threat.

Staff Sgt. Madeline Herzog

The North Warning System Site FOX-M Hall Beach, Sanirajak, Nunavut, Canada, is a critical piece of North American Aerospace Defense Command's Arctic early warning system.



Staff Sgt. Madeline Herzog

North Warning System Site CAM-5A, Cape McLoughlin, Northwest Territories, Canada, is seen from a helicopter flying above in April 2025. The site is part of a network of early warning sensors across the northern tier, providing early warning of missile or aircraft coming across the Arctic toward North America.

The challenges to information sharing extend beyond U.S. borders. International coalition and partner nation information sharing requirements add additional layers of complexity. From a technical perspective, respective countries typically operate on separate and distinct computer networks. Politically, countries wrestle with releasability policies governing the sharing of classified information across these computer networks. NATO and NORAD do not share a common operating picture, they operate at different classification levels, and they retain very few means of secure communications between the two organizations. As activity in the Arctic increases, these gaps must be addressed to permit the timely sharing of classified threats.

Future threats traveling at greater speeds only compound the challenge. Tracking the activities of multiple adversary weapon systems across the vast Arctic expanse requires a complex information and intelligence network that necessarily works across governmental and international borders and involves dozens of separate organizations. As changes occur in the environment and threats emerge, relevant information must be properly analyzed and then provided to decision-makers throughout the NORAD chain of command in order to take appropriate action.

MOVING FORWARD WITH PURPOSE

A review of the Arctic security situation reveals a concerning vulnerability to homeland defense. Inadequate domain awareness leaves the United States open to strategic attack. China and Russia's continued proliferation of precise long-range conventional aerial weapons, their desire to hold our strategic interests at risk, and their increasing Arctic activities make the situation dire. Reducing this threat will require a combination of efforts centering on improved domain sensing, improved information exchange, and international partnerships.

The scale and scope of this modern threat environment demands that a northern tier defense begin with a layered sensor network feeding command centers and decision-makers. Turning robust domain awareness into necessary and appropriate responses to various threats relies on a set of cascading steps. First, sensors need to scan to detect objects at range. From there, tracks must be established to determine the vector, potentially intimating the intent, of the asset in question. For example, an airborne asset flying along a border is different than one crossing a border and flying toward a populated area. If the asset in question appears to have hostile intent, it is deemed a threat and must be targeted for interception, which may include a kinetic kill. There is no single system that executes these functions. Instead, it takes a variety of technologies on the surface, in the air, and in space to engage collaboratively. Each domain capability has respective advantages and weaknesses, but the goal is to field a combined set of surface-, air-, and space-based sensors that eliminates gaps in data or information and provides timely domain awareness and command and control.

Over-the-horizon radars (OTHRs) provide a formidable capability for detection and tracking. The sensors outperform traditional radars by providing much greater detection ranges and covering larger volumes of airspace. Existing OTHR systems can detect targets at distances between 600 and 1,800 nautical miles, and because they lack the necessary fidelity for targeting, are best suited to threat detection and tracking. Both Canada and the United States are working on OTHR: Canada committed $6.9 billion to modernize their surveillance systems and highlighted the importance of OTHR and satellites in their 2022 national defense strategy, "Our North, Strong and Free: A Renewed Vision for Canada's Defence." They plan to deploy two separate arrays—the Arctic OTHR, located along the U.S.-Canada border, and the Polar OTHR, located near the Arctic Circle. Once in place they will provide an unprecedented improvement over the existing

North Warning System, their radar search areas extending out thousands of miles for critical early threat detection.

Space-based radar could supplement these OTHR capabilities, adding another layer of threat detection and tracking. But that technology may still be years away from operational relevance. Space-based Airborne Moving Target Indicator (AMTI) technology has great promise in this area, and recent advancements in small satellites and the exponential growth of proliferated low-Earth orbit (LEO) satellite constellations could potentially bring this capability within reach. But technological hurdles remain, and betting the future on those capabilities maturing in the near term poses significant risk.

Because surface and space-based radar data is not yet targeting-quality, an airborne layer affords additional options that could provide the fidelity needed to establish tracks and generate targeting data. Unlike OTHR and space-based AMTI, these systems are available now. The E-3 AWACS and its successor, the E-7 Wedgetail, both carry early-warning radars capable of detecting targets hundreds of miles away. Though these airborne radars lack the range of surface or space-based systems, they can fill gaps in degraded data, bring flexibility in sensing options, and have the ability cover expected avenues of attack.

Uninhabited aircraft could be used to complement manned aircraft in the airborne early-warning mission. Aircraft such as the MQ-9 and RQ-4 can fly higher and longer and, if equipped with appropriate sensors, could perform the mission at a lower operating cost with fewer crew members. That means several aircraft could operate at once for roughly the same cost as a single E-3 or E-7 aircraft. Importantly, however, this does not negate the need for E-3s and E-7s. Airborne early-warning aircraft provide irreplaceable airborne battle management capabilities. Uninhabited aircraft extend the range and complexity of the airborne early-warning sensing grid while enhancing the inhabited aircraft's ability to perform critical battle management roles.

INFORMATION DOMINANCE

"While the future of homeland defense may look vastly different than the current architecture, it will continue to depend on the pillars USNORTHCOM and NORAD use today—all-domain awareness; information dominance; decision superiority; and global integration," said Gen. Gregory Guillot, commander of USNORTHCOM and NORAD in testimony to Congress in March 2024.

If information dominance is a pillar of homeland defense, a streamlined information flow is also a critical requirement. Tracking multiple adversary weapon systems across the vast Arctic expanse requires a complex information and intelligence network spanning international borders and involving dozens of government organizations. As changes occur and threats emerge, the data must be analyzed and delivered to appropriate decision-makers throughout the NORAD chain of command.

"DOD will explore options to expand collaboration with Federal interagency partners and improve information sharing with Arctic allies and partners," states the Pentagon's Arctic strategy. Guillot likewise has testified: "Addressing threats from long-range missiles, cyberattacks, and uninhabited aerial systems requires close coordination and collaboration with a host of interagency, international, and DOD partners, and USNORTHCOM and NORAD are ideally situated to serve as the synchronizer and integrator for that crucial whole-of-government enterprise."

Challenging that are a variety of impediments that retard the flow of information, reducing the region's overall security posture. Both policy and technical challenges must be identified and removed.

Information-sharing agreements between the Federal Aviation Administration (FAA) and NORAD should be extended across the Atlantic to NATO and Eurocontrol. The Chief Digital and Artificial Intelligence Office's (CDAO) Global Information Dominance Experiments (GIDE) must be empowered to further break down information barriers between military and governmental offices. Hosting military exercises between NORAD and NATO would promote the ability to share classified information in a timely manner. Finally, adopting software like DOD's Maven Smart System can speed the flow of information across the chain of command, providing decision-makers more time to respond to dynamic situations while accessing greater levels of information.

CONCLUSION

Improved domain sensing rests on a layered set of systems comprising surface, air, and space capabilities. None of the systems are independently sufficient for the epic task of providing Arctic domain awareness, so each component is complementary to the others. The cornerstone of domain awareness is the surface-based OTHR replacement for NWS. Of all the recommended components, this system brings the most capability in the shortest time frame. Airborne components bring the greatest flexibility and survivability. The uninhabited MQ-9 and RQ-4 aircraft are ideally suited for the surveillance mission, given their high operating altitudes and long endurance. The E-7 has the greatest air-to-air radar capabilities and serves as an independent command and control node. Finally, the space-based component to domain awareness, while not yet technologically mature, has great potential. With sufficient investment, it can eventually replace the need for complex ground-based OTHR systems.

Equally important to a layered sensing architecture is an efficient information-sharing enterprise encompassing DOD, state, other federal institutions, and pertinent allied entities. A holistic intelligence and information sharing network must break down technical and policy barriers to increase cooperation and speed. DOD's CDAO office plays an important role in reducing the information stovepipes within the department, but it will take action above the DOD level to ensure information flow between governmental departments and partner nations. The Department of Transportation, Homeland Security, and Eurocontrol are all prime examples of organizations that routinely handle information pertinent to Arctic domain awareness and require seamless ties to NORAD's common operational picture.

Finally, European nations ideally located on Russia's Arctic front door offer important partnership opportunities. European countries on the Scandinavian Peninsula offer significant insights into Russian military activity with their front-row view of the adversary, in addition to their deep cultural understanding. These countries routinely collect critical information on Russia that should directly feed NORAD's intelligence assessment and common operational picture. Despite recognition of this partnership's importance, few touchpoints presently exist between NORAD and the Joint Nordic Air Command. Deliberate DOD efforts could alleviate this shortfall.

The United States cannot allow the increasing Russian and Chinese Arctic threat to go unchecked. An improved early-warning sensor network combined with enhanced information sharing and Arctic nation collaboration would set the foundation for improved North American security.

Special Mission, Special Fleet

From the President to returning hostages, the 89th Airlift Wing hauls some of the nation's most precious cargo.

Chris Gordon/staff

Dignitaries and senior officials such as former First Lady Jill Biden and former Defense Secretary Lloyd Austin used the C-32A and C-40 from Joint Base Andrews, Md., for secure flights all across the country, in this case to Maxwell Air Force Base, Ala., in 2024.

By Chris Gordon

JOINT BASE ANDREWS, MD.

The 89th Airlift Wing is best known for its fleet that transports leaders to red carpet arrivals around the world. Less understood is that the aircraft painted in iconic pale blue and white are also intended to ensure the continuity of U.S. government operations in a crisis—and can even serve as a flying nuclear command post.

"When we land somewhere, it is a national monument," 89th Airlift Wing Commander Col. Chris Robinson said in an interview with Air & Space Forces Magazine.

"On the side of our aircraft, it says United States of America. And so when that airplane lands, it's that first impression with our allies and partners. It is a unique and special instrument of the state that my team is uniquely privileged to be a part of," Robinson emphasized.

The wing's two VC-25As, Boeing 747s known commonly by their Air Force One call sign, used only when transporting the President, are flown by the wing's Presidential Airlift Group.

The wing's 1st Airlift Squadron flies four C-32As, Boeing 757s used by the Vice President as Air Force Two, by the Secretary of State or Defense Secretary on some trips, and on occasion by President Donald Trump on shorter trips, such as to his resort and golf club in New Jersey, which is just a short hop from Joint Base Andrews, Md.

"The term no fail means just that—we cannot, for one moment, slip."
—Col. Chris Robinson, 89th Airlift Wing commander

The 1st Airlift Squadron also flies a fleet of four smaller C-40s—Boeing 737s used to transport high-level administration officials, top military leaders, and members of Congress.

The wing's primary workhorse is the C-37, often seen parked on a main flight line at Andrews. While most are painted blue and white, a few jets sport discreet all-white liveries. The 11 C-37s come in two variants: The A model is a modified Gulfstream V, the oldest of which are approaching 30 years old, while the newer C-37B is a modified Gulfstream 550 with greater range and fuel efficiency. These jets can fly high and fast, cruising at 50,000 feet, above most weather and commercial traffic, despite its compact airframe.

Despite the high-profile nature of their mission, most of the wing's aircraft carry no tail numbers, obscuring their important cargo: The President, the Vice President, the first spouse, the Secretary of Defense, the Secretary of State, the Chairman of the Joint Chiefs of Staff, and the

Chris Gordon/staff

A C-37 from the 99th Airlift Squadron parked in a hangar at Joint Base Andrews, Md., in the fall of 2025.

Speaker of the House. Other notable customers include the FBI, CIA, NSA, combatant commanders, and congressional delegations, and, from time to time, special cargo, such as the remains of a former President or repatriated Americans returning home.

The mission is unique, as is its demands, Robinson said. "If you just wanted pilots or flight crews, then you could contract this out or put civilians on it. The fact that we're still uniform-wearing people allows us to do unique things and have that mindset that we go anywhere despite the threat."

The 89th Airlift Wing's 1,800 personnel includes an elite team known as the SAM Foxes, who take their nickname from the call sign used on the wing's Special Air Missions—SAM. A Red Fox adorns their patches and uniforms.

That unit flew a C-37B from Andrews last February, taking off at 4:25 a.m. on short notice and eventually landing in Moscow. U.S. officials declined to disclose the purpose of the flight or its passengers at the time, but February was an active period in U.S.-Russian relations.

Earlier that month, U.S. Special Envoy Steve Witkoff went to the Russian capital to meet with Russian President Vladimir Putin and negotiate an exchange of prisoners. Mark Fogel, an American school teacher who had been detained in Russia was released in exchange for a Russian who had pleaded guilty to money laundering.

Later, senior U.S. and Russian officials met in Saudi Arabia to discuss restoring the staffing in their respective diplomatic missions.

"It could be a very nerve-wracking thing, but just know that there is a massive support apparatus helping the crew get to where they need to go," said Tech. Sgt Brandon Jones, a C-37 flight engineer with the 99th Airlift Wing and instructor with the formal training unit, speaking generally about alert missions. Gulfstreams typically do not have or require flight engineers, but on C-37 missions, he is a qualified pilot, a third pair of eyes in the cockpit, and a flying crew chief who helps oversee the aircraft to ensure it remains ready to go on worldwide missions.

"If something's wrong with anything in there," Jones said, pointing to a picture on the wall of C-37 engine being serviced in a conference room at the 99th Airlift Wing headquarters building, "I'm going to be the guy on the ladder also doing that on the road, except I get to do it in my Blues."

In September, Secretary of Defense Pete Hegseth's gathering of high-ranking military officers from across the world for a speech in Quantico, Va., dispersed the wing's C-37s around the globe to pick up generals and admirals; planes landed at Andrews roughly every 30 minutes on the evening of Sept. 29, according to open-source data, and the process reversed itself over the next 48 hours.

Crews must always be flexible. Senior officials' travel can be fluid. Staff Sgt. Greigh Ornelas who is a C-37 communications systems operator and instructor with the formal training unit, ensuring classified and unclassified systems are working properly on the ground before a flight and in the air, has also become an expert at booking hotels.

"Because of the people we fly, they're going to big conferences, big events, and a lot of hotels and transportation companies [tell us] 'Sorry, we're fully booked.' So we've got to kind of get creative," Ornelas said.

When things go wrong, problems are magnified. An Air Force C-32 carrying Hegseth had to divert to RAF Mildenhall in England while flying from Brussels to Andrews Oct. 15 due to a cracked windshield. The aircraft, tail 98-0002, is among the Air Force's oldest C-32s.

"On the way back to the United States from NATO's Defense Ministers meeting, Secretary of War Hegseth's plane made an unscheduled landing in the United Kingdom due to a crack in the aircraft windshield," chief Pentagon spokesman Sean Parnell said in a statement provided to Air & Space Forces Magazine, referring to Hegseth's secondary title authorized by the Trump administration. "The plane landed based on standard procedures and everyone onboard, including Secretary Hegseth, is safe."

It marked the second time an Air Force C-32 carrying a high-ranking cabinet official has had to divert due to a cracked windshield this year. In February, a plane carrying Secretary of State Marco Rubio ran into a similar problem after taking off from Andrews as the chief diplomat was flying to a security conference in Europe.

The wing is highly selective, and tours are typically longer than in other units. It employs its own physiologist to help screen potential members and recruits Airmen from across the Air Force for talent.

"[It is] a very world-class organization there at Andrews, with

the best of the breed going in there, from the people flying the plane to supporting the plane to supporting the customers themselves," said 18th Air Force Commander Maj. Gen. Charles D. Bolton, who oversees the 89th Airlift Wing as one of the units that comprises AMC's sole numbered Air Force. "It's a very dynamic kind of mission set. It's about balancing out their schedules and how they can support it in a very dynamic environment."

Selectivity and specialization here is like in other tight communities, such as the B-2 bombers at Whiteman Air Force Base, Mo.

"It's above and beyond everything you've ever had in the Air Force, so you've been vetted, and then you're going to be double and triple-vetted," Robinson said. "At each level, there's a cut. … We still have plenty of Airmen volunteering for it, but we are incredibly selective."

At the same time, some skills are in short supply, and the recruiting mission never ends. Ahead of visits to other Air Force bases, the wing sends out emails actively recruiting Airmen.

"I tell my fellow wing commanders this: 'If you're sending us the right person, it should hurt to give them up. You should cringe at the thought of that person leaving your wing because they're so critical to your mission. But guess what? They are going to get to grow and do and see things that are bigger than any mission we have."

The 89th Airlift Wing, Robinson continued, "has two no-fail missions: nuclear and presidential support. … The term no fail means just that—we cannot, for one moment, slip on either of those things."

On international trips, the Secretary of Defense often flies on one of four E-4Bs. These National Airborne Operations Center aircraft belong to Air Force Global Strike Command. When those are unavailable, a C-17 Globemaster III can be equipped with a modified Airstream trailer known as the Silver Bullet that provides some of the same capabilities. SAM Fox Airmen are flight attendants on these missions, who are largely invisible to unknowing passengers on board.

"This particular mission set goes everywhere, because, of course, the people we service go everywhere," said Tech. Sgt Erasmus Hartsfield, a flight attendant with the 1st Airlift Squadron, which flies the C-32A and C-40.

In addition to the four C-32As in the 1st Airlift Squadron, the Air Force also has four newer, and secretive, C-32As, which shadow or serve as Air Force One, based on open-source flight tracking information—though the Air Force does not officially acknowledge the newer aircraft. Their tail numbers—since painted over—suggest the jets were purchased starting in 2009 as used aircraft. The jets are likely equipped with the Senior Leader Communications System, which a 2020 Air Force document referred to as "a system foundational to the Presidential and Executive Airlift Fleet." The four unacknowledged C-32As appear to operate under the Presidential Airlift Group, rather than the 1st Airlift Squadron.

The 89th Airlift Wing only acknowledged four C-32As in an account of its inventory to Air & Space Forces Magazine and the Air Force lists only four C-32As on its official fact sheet for the plane. But a review of photographs, flight tracking data, and the accounts of former officials confirm there are eight C-32As. Details of the secretive C-32As were first reported by Defense One in 2024.

The four public C-32As began receiving the Senior Leader Communications System, the new Presidential and National Voice Conferencing system, and other communications upgrades this year, and the entire fleet is scheduled to have those upgrades in fiscal 2027, according to data compiled by Air & Space Forces Magazine.

Global Strike Command's E-4Bs are known as the "Doomsday Plane" for their role as the nation's primary nuclear command and control aircraft. Due to its size and paint job, it can be seen shadowing Air Force One around the world along with C-32As, though the Air Force officials and personnel do not comment on that mission. But the E-4 is not the only modified passenger jet America's adversaries should fear. Air Force One and perhaps some of the C-32As are suspected to have high-end command and control capabilities as well.

However, the 89th Airlift Wing remains tight-lipped on exactly what its aircraft can do.

"Now the Secretary of War will fly on that platform, and he has that access to that," Robinson said, referring to the E-4's nuclear command and control role, and using Hegseth's secondary title authorized by the Trump administration. "But the other platforms have capabilities, and I won't go much further than that. We have aircraft that can do those missions."

While not often associated with executive airlift—a term

Senior Airman Gianluca Ciccopiedi

The 89th Airlift Wing's flagship aircraft are its VC-25As, better known as Air Force One. They carry the President on long-haul and international trips and are a symbol of the United States.

that perhaps undersells the 89th's mission, Robinson noted—nuclear command and control is one of the wing's bedrock responsibilities.

"Nuclear command and control is one of the keys to deterrence," Robinson said. "We all hope that that never happens. But our nation's enemies need to know that there will never be an opportunity for them to strike without us being able to control our forces."

Beyond the ability to control forces, the wing must also ensure the survival of the nation's top leaders.

"Continuity of government is a special responsibility. That's a different thing than continuity of operations," he said.

Like the rest of the Air Force, the 89th Airlift Wing has one critical problem: Its planes are old, and replacements are slow in coming.

Senior Airman Nathan Wingate

The VC-25's moniker, "Air Force One," is only used when the President is onboard. It has been called the flying White House.

The Air Force acquired its first four C-32As more than 25 years ago. Communications have been updated for secure voice, data, and video connections, but the planes are used frequently and wear is a concern. In October 2014 after visiting 55 countries and flying over half a million miles in his first 18 months as Secretary of State John Kerry's C-32 broke down in the midst of talks with Iran on its nuclear program. Now, 11 years later, Secretary of State Marco Rubio has already visited 22 countries and traveled over 100,000 miles, also in the C-32.

For now, however, there is no plan to replace the C-32 or C-40, some of which are over 30 years old. Still, official Air Force figures give the C-32A and C-40 a mission capable rate of over 90 percent for fiscal 2024.

Current Air Force One VC-25 jets date to 1990 and 1991, during the presidency of George H.W. Bush, and have served Presidents Bill Clinton, George W. Bush, Barack Obama, Trump, Joe Biden, and now Trump again in the ensuing 35 years. The planned project to replace them has dragged on for more than a decade, and the replacement jets, 747-8is, originally ordered in 2011 by a now-defunct Russian airline, are already out of production. The jets were ordered by the Defense Department in 2018, but the modification process has been mired in challenges, with delivery most recently delayed until 2029—five years behind plan.

President Trump's frustration drove the unprecedented decision to accept another 747 from the government of Qatar. Modifications to that plane are underway, with the aim that it can temporarily serve as Air Force One assuming it can be delivered while Trump is still in office. The Air Force has released no details on the modifications planned or their cost, saying only that it has diverted unspent funds from the Sentinel ICBM program for the purpose.

As with much of the Air Force, therefore, many of the 89th's planes are older than the Airmen who fly and maintain them.

"What a special thing it is to be a young Airman and be entrusted [with the mission]. If you think about how young some of our pilots are, some of our flight attendants, some of our comm systems operators, some of our flying crew chiefs, and they are flying with the world's most powerful people," Robinson said. "Our pilots—they're somewhere between that 26 and 34 year on average. Your average airline pilot for something like an international carrier, they're a lot older."

Former Air Force Chief of Staff Gen. David W. Allvin, a frequent traveler on the 89th's aircraft as a member of the Joint Chiefs of Staff, hailed the wing's personnel, purpose, and mission.

"It's absolutely critical," Allvin said. "We're trying to manage making sure that fleet is sufficient to the needs of the leadership, and trying to balance it with all the other budget woes that we and others have. … I think that technology is also advancing faster than those aircraft are. … We need to make sure those can adapt and integrate onto our somewhat aging platforms."

The wing treats its planes like the flying limos they are. Planes are washed down on return, rinsed, soaped, and scrubbed. The VC-25As, Robinson said, are hand polished.

Inside, passengers get special care and are carefully attended to. Flight attendants attend culinary school, paying attention to every little detail: quality, presentation, health, religious or other dietary restrictions, and presentation. Safety, though, is mission critical. "We are one of the few kitchens in the world that's allowed to feed the President of the United States," Robinson said. "I take that incredibly seriously."

Culinary training tracks everything from freshness to proper preparation. "You're learning everything regarding food safety, but even techniques for pairing food, wine, and meat and cheese pairings—how to cook things to a point where it's cooked the right way," said Hartsfield, who is also an instructor. "There are certain foods that you have to be mindful of the proper way to cook—like lamb, the proper way to cook it is where there's a little—just a little smidge—with some red or pink in there. But we make sure we're doing it safely."

As wing commander, a role Robinson assumed in July, one of his jobs is to greet President Trump as he exits Marine One and to walks with him to Air Force One, and vice versa. It's an experience that never gets old, and for which there's no real preparation.

"Every time you get to talk to the President of the United States, it is a one-off experience that most people will never get," Robinson said. "I welcome him home or wish him good luck on his mission, and then I wait for him to decide whether he would like to talk or not. … We've had great conversations, and he always treats me just amazingly. But I also try to look at his mood. He is not there to entertain me. I am there for him, not the other way around."

By Chequita Wood

AFA ALMANAC

The Air Force Association's 12 Founders

John S. Allard
Bronxville, N.Y.

Everett R. Cook
Memphis, Tenn.

Edward P. Curtis
Rochester, N.Y.

Jimmy Doolittle
Los Angeles

W. Deering Howe
New York

Rufus Rand
Sarasota, Fla.

Sol A. Rosenblatt
New York

Julian B. Rosenthal
New York

James M. Stewart
Beverly Hills, Calif.

Lowell P. Weicker
New York

Cornelius Vanderbilt Whitney
New York

John Hay Whitney
New York

Volunteer Elected Leadership

Jimmy Doolittle
President, 1946-47
Chairman, 1947-49

Edward P. Curtis
Chairman, 1946-47

Thomas G. Lanphier Jr.
President, 1947-48
Chairman, 1951-52

C. R. Smith
President, 1948-49
Chairman, 1949-50

Robert S. Johnson
President, 1949-51

Carl A. Spaatz
Chairman, 1950-51

Harold C. Stuart
President, 1951-52
Chairman, 1952-53

Arthur F. Kelly
President, 1952-53
Chairman, 1953-54

George C. Kenney
President, 1953-54
Chairman, 1954-55

John R. Alison
President, 1954-55
Chairman, 1955-56

Gill Robb Wilson
President, 1955-56
Chairman, 1956-57

John P. Henebry
President, 1956-57
Chairman, 1957-58

Peter J. Schenk
President, 1957-59

James M. Trail
Chairman, 1958-59

Howard T. Markey
President, 1959-60
Chairman, 1960-61

Julian B. Rosenthal
Chairman, 1959-60

Thos. F. Stack
President, 1960-61
Chairman, 1961-62

Joe Foss
President, 1961-62
Chairman, 1962-63

John B. Montgomery
President, 1962-63

W. Randolph Lovelace II
President, 1963-64
Chairman, 1964-65

Jack B. Gross
Chairman, 1963-64

Jess Larson
President, 1964-67
Chairman, 1967-71

Robert W. Smart
President, 1967-69

George D. Hardy
President, 1969-71
Chairman, 1966-67
Chairman, 1971-72

Martin M. Ostrow
President, 1971-73
Chairman, 1973-75

Joe L. Shosid
President, 1973-75
Chairman, 1972-73
Chairman, 1975-76

George M. Douglas
President, 1975-77
Chairman, 1977-79

Gerald V. Hasler
President, 1977-79
Chairman, 1976-77

Victor R. Kregel
President, 1979-81
Chairman, 1981-82

Daniel F. Callahan
Chairman, 1979-81

John G. Brosky
President, 1981-82
Chairman, 1982-84

David L. Blankenship
President, 1982-84
Chairman, 1984-85

Edward A. Stearn
Chairman, 1985-86

Martin H. Harris
President, 1984-86
Chairman, 1986-88

Sam E. Keith Jr.
President, 1986-88
Chairman, 1988-90

Jack C. Price
President, 1988-90
Chairman, 1990-92

Oliver R. Crawford
President, 1990-92
Chairman, 1992-94

James M. McCoy
President, 1992-94
Chairman, 1994-96

Gene Smith
President, 1994-96
Chairman, 1996-98

Doyle E. Larson
President, 1996-98
Chairman, 1998-2000

Thomas J. McKee
President, 1998-2000
Chairman, 2000-02

John J. Politi
President, 2000-02
Chairman, 2002-04

Stephen P. Condon
President, 2002-04
Chairman, 2004-06

Robert E. Largent
President, 2004-06a
Chairman, 2006-08b

Joseph E. Sutter
Chairman, 2008-10

S. Sanford Schlitt
Chairman, 2010-12

George K. Muellner
Chairman, 2012-2014

Scott P. Van Cleef
Chairman, 2014-16

F. Whitten Peters
Chairman, 2016-19

Gerald R. Murray
Chairman, 2019-22

Bernard "Bernie" Skoch
Chairman, 2022-2023
Chair, 2023-2025

Kathleen Ferguson
Chair, 2025-

Professional Leadership

Willis S. Fitch
Executive Director
1946-47

James H. Straubel
Executive Director
1948-80

Russell E. Dougherty
Executive Director
1980-86

David L. Gray
Executive Director
1986-87

John O. Gray
Acting Executive Director
1987-88, 1989-90

Charles L. Donnelly Jr.
Executive Director
1988-89

Monroe W. Hatch Jr.
Executive Director
1990-95

John A. Shaud
Executive Director
1995-2002

Donald L. Peterson
Executive Director
President-CEO
2002-06c
2006-07

Michael M. Dunn
President-CEO
2007-12

Craig R. McKinley
President
2012-15

Larry O. Spencer
President
2015-19

Bruce A. Wright
President-CEO, 2019-24

Burton Field
President-CEO
2024-

VICE CHAIR, FIELD OPERATIONS

Chris Canada
Vice Chair,
Field Operations
2023-

Joseph E. Sutter
2006-08
James R. Lauducci
2008-10
Justin M. Faiferlick
2010-12
Scott P. Van Cleef
2012-14
David A. Dietsch
2014-16
F. Gavin MacAloon
2016-20
Jim Simons
2020-23

NATIONAL SECRETARIES

Paul Hendricks
National Secretary
2024-

Sol A. Rosenblatt
1946-47
Julian B. Rosenthal
1947-59
George D. Hardy
1959-66
Joseph L. Hodges
1966-68
Glenn D. Mishler
1968-70
Nathan H. Mazer
1970-72
Martin H. Harris
1972-76
Jack C. Price
1976-79
Earl D. Clark Jr.
1979-82
Sherman W. Wilkins
1982-85
A. A. "Bud" West
1985-87
Thomas J. McKee
1987-90
Thomas W. Henderson
1990-91
Mary Ann Seibel
1991-94
Mary Anne Thompson
1994-97
William D. Croom Jr.
1997-2000
Daniel C. Hendrickson
2000-03
Thomas J. Kemp
2003-06
Judy K. Church
2006-09
Joan Sell
2009-11
Edward W. Garland
2011-14
Marvin L. Tooman
2014-15
John T. Brock
2015-17
Ross Lampert
2017-18
Richard W. Hartle
2018-21
Michael J. Liquori
2021-24

NATIONAL TREASURERS

Charles L. Martin Jr.
National Treasurer
2020-

W. Deering Howe
1946-47
G. Warfield Hobbs
1947-49
Benjamin Brinton
1949-52
George H. Haddock
1952-53
Samuel M. Hecht
1953-57
Jack B. Gross
1957-62
Paul S. Zuckerman
1962-66
Jack B. Gross
1966-81
George H. Chabbott
1981-87
William N. Webb
1987-95
Charles H. Church Jr.
1995-2000
Charles A. Nelson
2000-05
Steven R. Lundgren
2005-10
Leonard R. Vernamonti
2010-14
Nora Ruebrook
2014-16
Charles L. Martin Jr.
2016
Steven R. Lundgren
2016-20

VICE CHAIR, EDUCATION

Gary Copsey
Vice Chair,
Education
2024-

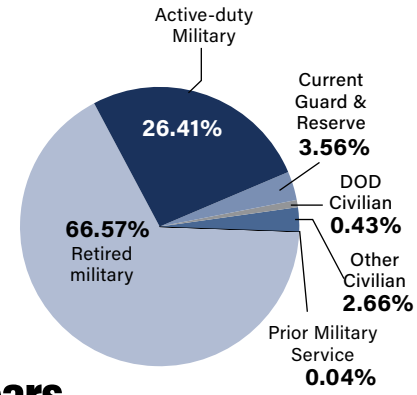
L. Boyd Anderson
2006-07
S. Sanford Schlitt
2007-10
George K. Muellner
â2010-12
Jerry E. White
2012-15
Richard B. Bundy
2015-18
James T. Hannam
2018-21
Stephen K. Gourley
2021-24

AFA Membership

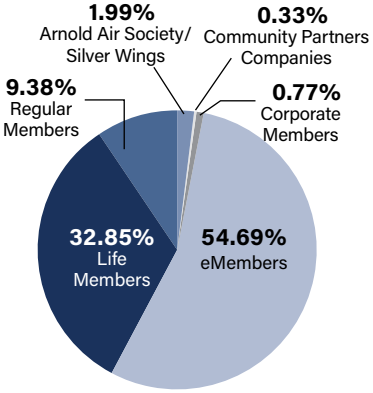
As of September 2025. Total **130,000.** Numbers are rounded.

AFA Membership has grown steadily since 2021, in line with the growing attendance at AFA's major professional development events, the Air, Space & Cyber Conference in September and the AFA Warfare Symposium, now held in Denver each winter.

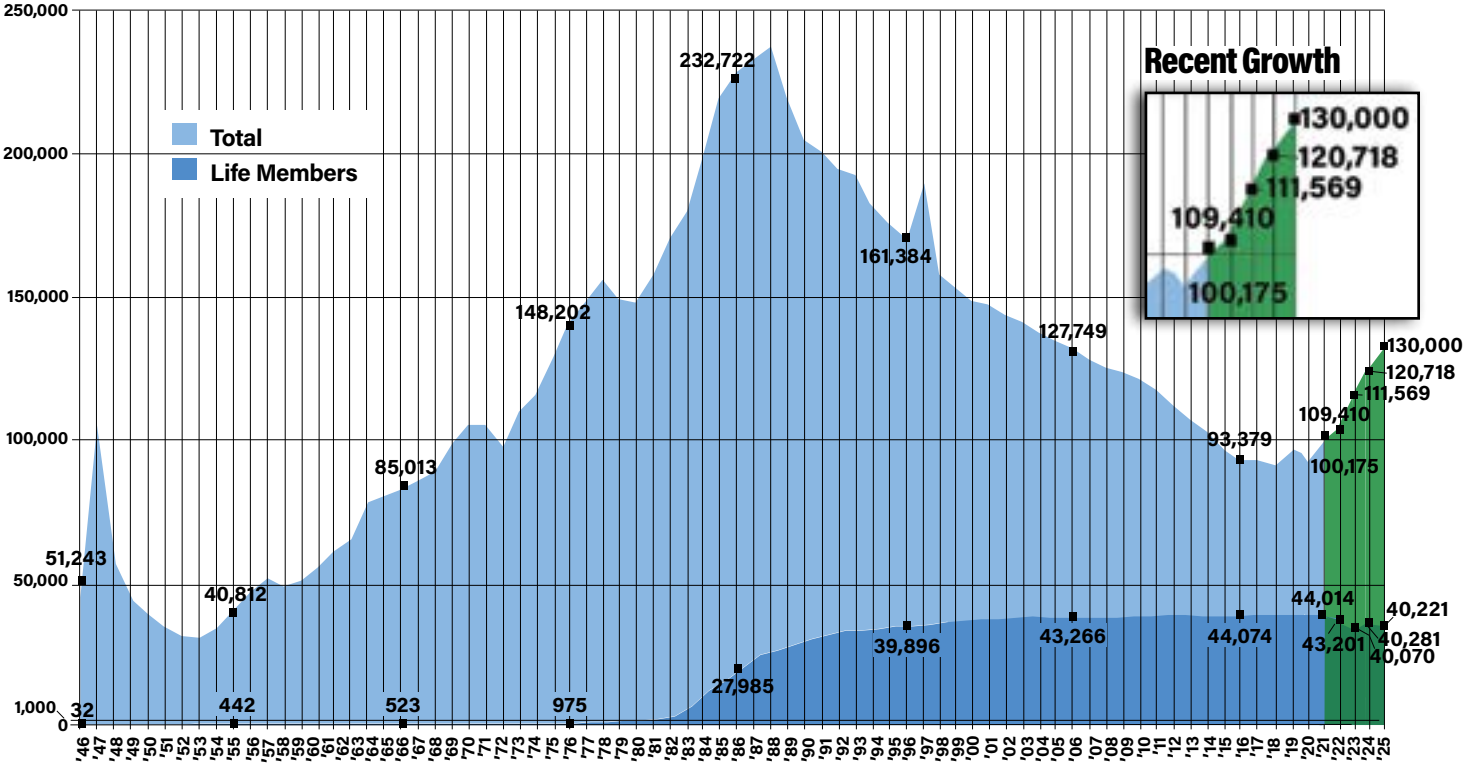
MILITARY STATUS



MEMBERSHIP CATEGORY

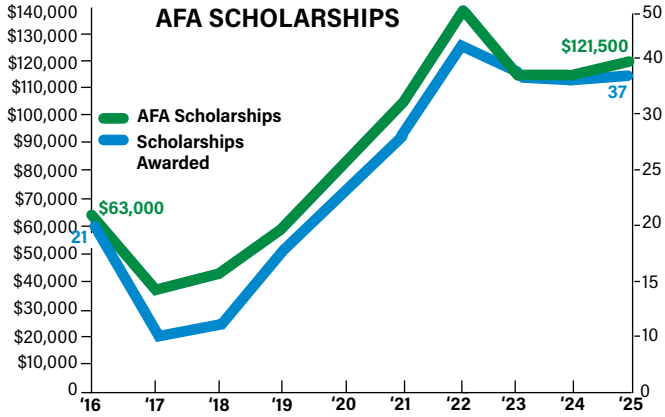


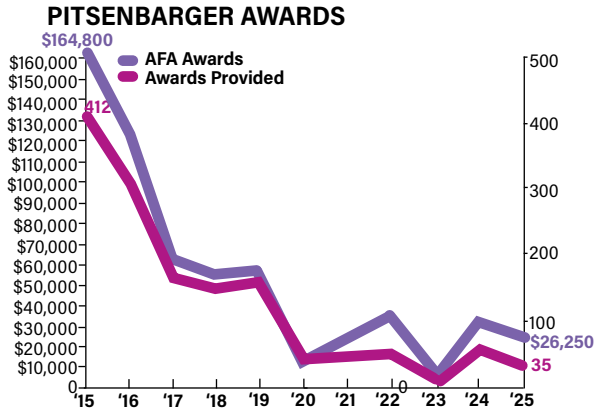
AFA Membership Over The Years



Scholarships

AFA awards **scholarships,** to aspiring college students backed by funds from generous organizations and individuals. AFA also funds **Pitsenbarger** awards for Airmen who complete their associate degree through the Community College of the Air Force (CCAF) and intend to pursue a bachelor's degree.



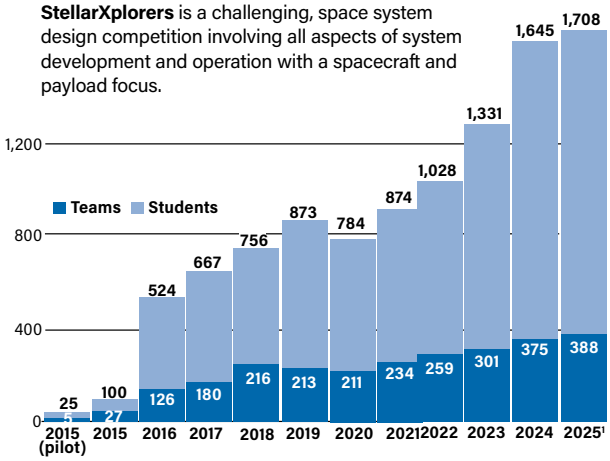


Note: Another round of scholarships will be awarded in the fall, causing the Pitsenbarger Scholarship totals to increase.

STEM Programs

AFA'S STELLARXPLORERS PROGRAM

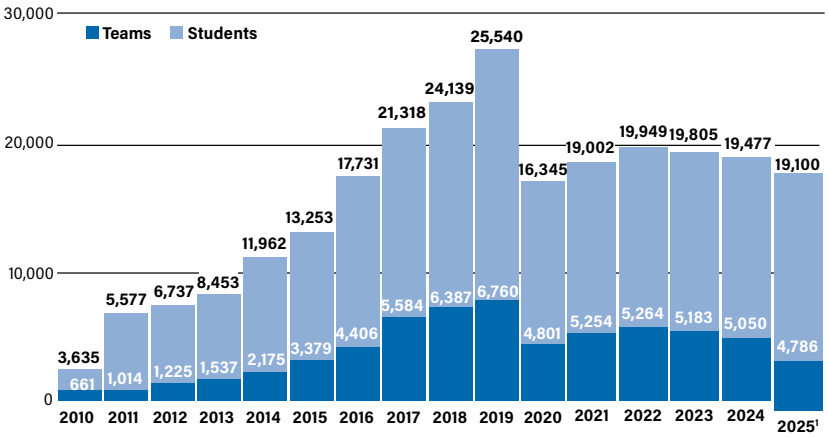
StellarXplorers is a challenging, space system design competition involving all aspects of system development and operation with a spacecraft and payload focus.



¹Estimated—our competitor registration deadline is early November.

AFA'S CYBERPATRIOT PROGRAM

CyberPatriot is the National Youth Cyber Education Program created by AFA to inspire K-12 students toward careers in cybersecurity or other science, technology, engineering, and mathematics (STEM) disciplines.



National Aerospace Awards

H.H. ARNOLD AWARD

Named for the World War II leader of the Army Air Forces, the H.H. Arnold Award has been presented annually in recognition of the most outstanding contributions in the field of aerospace activity. Since 1986, it has been AFA's highest honor to a member of the armed forces in the field of national defense.

Year	Award Recipient(s)
1948	W. Stuart Symington, Secretary of the Air Force
1949	Maj. Gen. William H. Tunner and the men of the Berlin Airlift
1950	Airmen of the United Nations in the Far East
1951	Gen. Curtis E. LeMay and the personnel of Strategic Air Command
1952	Sen. Lyndon B. Johnson and Sen. Joseph C. O'Mahoney
1953	Gen. Hoyt S. Vandenberg, USAF (Ret.), former Air Force Chief of Staff
1954	John Foster Dulles, Secretary of State
1955	Gen. Nathan F. Twining, Chief of Staff, USAF
1956	Sen. W. Stuart Symington
1957	Edward P. Curtis, special assistant to the President
1958	Maj. Gen. Bernard A. Schriever, Cmdr., Ballistic Missile Div., ARDC
1959	Gen. Thomas S. Power, CINC, SAC
1960	Gen. Thomas D. White, Chief of Staff, USAF
1961	Lyle S. Garlock, Assistant SECAF
1962	A. C. Dickieson and John R. Pierce, Bell Telephone Laboratories
1963	The 363rd Tactical Recon. Wing and the 4080th Strategic Wing
1964	Gen. Curtis E. LeMay, Chief of Staff, USAF
1965	The 2nd Air Division, PACAF
1966	The 8th, 12th, 355th, 366th, and 388th Tactical Fighter Wings and the 432nd and 460th TRWs
1967	Gen. William W. Momyer, Cmdr., 7th Air Force, PACAF
1968	Col. Frank Borman, USAF; Capt. James Lovell, USN; and Lt. Col. William Anders, USAF, Apollo 8 crew
1969	No Award
1970	Apollo 11 team (J. L. Atwood; Lt. Gen. S. C. Phillips, USAF; and astronauts Neil Armstrong and USAF Cols. Buzz Aldrin and Michael Collins)
1971	John S. Foster Jr., Dir. of Defense Research and Engineering
1972	Southeast Asia (Air Force, Navy, Army, Marine Corps, and the Vietnamese Air Force)
1973	Gen. John D. Ryan, USAF (Ret.), former Chief of Staff
1974	Gen. George S. Brown, USAF, Chm., Joint Chiefs of Staff
1975	James R. Schlesinger, Secretary of Defense
1976	Sen. Barry M. Goldwater
1977	Sen. Howard W. Cannon
1978	Gen. Alexander M. Haig Jr., USA, Supreme Allied Commander, Europe
1979	Sen. John C. Stennis
1980	Gen. Richard H. Ellis, USAF, CINC, SAC
1981	Gen. David C. Jones, USAF, Chm., Joint Chiefs of Staff
1982	Gen. Lew Allen Jr., USAF (Ret.), former Chief of Staff
1983	Ronald W. Reagan, President of the United States
1984	The President's Commission on Strategic Forces (Scowcroft Commission)
1985	Gen. Bernard W. Rogers, USA, SACEUR
1986	Gen. Charles A. Gabriel, USAF (Ret.), former Air Force Chief of Staff
1987	Adm. William J. Crowe Jr., USN, Chm., Joint Chiefs of Staff
1988	Men and women of the Ground-Launched Cruise Missile team
1989	Gen. Larry D. Welch, Chief of Staff, USAF
1990	Gen. John T. Chain, CINC, SAC
1991	Lt. Gen. Charles A. Horner, Cmdr., CENTCOM Air Forces and 9th Air Force
1992	Gen. Colin L. Powell, USA, Chm., Joint Chiefs of Staff
1993	Gen. Merrill A. McPeak, Chief of Staff, USAF
1994	Gen. John Michael Loh, Cmdr., Air Combat Command
1995	World War II Army Air Forces veterans
1996	Gen. Ronald R. Fogleman, Chief of Staff, USAF
1997	Men and women of the United States Air Force
1998	Gen. Richard E. Hawley, Cmdr., ACC
1999	Lt. Gen. Michael C. Short, Cmdr., Allied Air Forces Southern Europe
2000	Gen. Michael E. Ryan, Chief of Staff, USAF
2001	Gen. Joseph W. Ralston, CINC, EUCOM
2002	Gen. Richard B. Myers, USAF, Chm., Joint Chiefs of Staff
2003	Lt. Gen. T. Michael Moseley, Cmdr., air component, CENTCOM, and 9th Air Force
2004	Gen. John P. Jumper, Chief of Staff, USAF
2005	Gen. Gregory S. Martin, USAF (Ret.), former Cmdr., AFMC
2006	Gen. Lance W. Lord, USAF (Ret.), former Cmdr., AFSPC
2007	Gen. Ronald E. Keys, Cmdr., ACC
2008	Gen. Bruce Carlson, Cmdr., AFMC
2009	Gen. John D. W. Corley, Cmdr., ACC
2010	Lt. Gen. David A. Deptula, USAF Deputy Chief of Staff, ISR
2011	Gen. Duncan J. McNabb, Cmdr., TRANSCOM
2012	Gen. Norton A. Schwartz, USAF (Ret.), former Chief of Staff
2013	Gen. Douglas M. Fraser, USAF (Ret.), former Cmdr., SOUTHCOM
2014	Gen. C. Robert Kehler, USAF (Ret.), former Cmdr., STRATCOM
2015	Gen. Janet C. Wolfenbarger, USAF (Ret.), former Cmdr., AFMC
2016	Gen. Mark A. Welsh III, USAF (Ret.), former Chief of Staff
2017	Lt. Gen. Christopher C. Bogdan, USAF (Ret.), former PEO, F-35 Prgm
2018	Gen. Herbert J. Carlisle, USAF (Ret.), former Cmdr., AFMC
2019	Gen. Ellen M. Pawlikowski, USAF (Ret.), former Cmdr., AFMC
2020	Gen. David L. Goldfein, USAF (Ret.), former Chief of Staff, USAF
2021	Gen. John W. "Jay" Raymond, USSF, Chief of Space Operations
2022	Gen. Tod D. Wolters, USAF (Ret.), former Cmdr., USEUCOM and NATO SACEUR
2023	Gen. Glen D. VanHerck, Cmdr., NORTHCOM/NORAD
2024	Gen. David Thompspn, USSF (Ret.), former Vice Chief of Space Operations
2025	No Award

Courtesy

AFA President & CEO Lt. Gen. Burt Field, USAF (Ret.), and AFA Chair of the Board Kathleen Ferguson present the W. Stuart Symington Award to U.S. Sen. Roger Wicker (center) in recognition of his outstanding contributions to national defense.

W. STUART SYMINGTON AWARD

AFA's highest honor to a civilian in the field of national security, the award is named for the first Secretary of the Air Force.

Year	Award Recipient(s)
1986	Caspar W. Weinberger, Secretary of Defense
1987	Edward C. Aldridge Jr., Secretary of the Air Force
1988	George P. Schultz, Secretary of State
1989	Ronald W. Reagan, former President of the United States
1990	John J. Welch, Asst. SECAF (Acquisition)
1991	George Bush, President of the United States
1992	Donald B. Rice, SECAF
1993	Sen. John McCain (R-Ariz.)
1994	Rep. Ike Skelton (D-Mo.)
1995	Sheila E. Widnall, SECAF
1996	Sen. Ted Stevens (R-Alaska)
1997	William Perry, former SECDEF
1998	Rep. Saxby Chambliss (R-Ga.) and Rep. Norman D. Dicks (D-Wash.)
1999	F. Whitten Peters, SECAF
2000	Rep. Floyd Spence (R-S.C.)
2001	Sen. Michael Enzi (R-Wyo.) and Rep. Cliff Stearns (R-Fla.)
2002	Rep. James V. Hansen (R-Utah)
2003	James G. Roche, SECAF
2004	Peter B. Teets, Undersecretary of the Air Force
2005	Rep. Duncan Hunter (R-Calif.)
2006	No Award Given
2007	Michael W. Wynne, SECAF
2008	Gen. Barry R. McCaffrey, USA (Ret.)
2009	Sen. Orrin G. Hatch (R-Utah)
2010	John J. Hamre, Center for Strategic & International Studies
2011	Rep. C. W. "Bill" Young (R-Fla.)
2012	Gen. James L. Jones, USMC (Ret.)
2013	Michael B. Donley, SECAF
2014	Ashton B. Carter, former Deputy SECDEF
2015	William A. LaPlante, Asst. SECAF (Acquisition)
2016	Jamie M. Morin, Director, Cost Assessment & Prgm Evaluation
2017	Lisa S. Disbrow, Undersecretary of the Air Force
2018	Deborah Lee James, former SECAF
2019	Heather Wilson, former SECAF
2020	Will Roper, Asst. SECAF (AT&L)
2021	Barbara Barrett, former SECAF
2022	Sen. Jim Inhofe, Ranking Member, SASC
2023	Frank Kendall, former SECAF
2024	Dr. Derek Tournear, Director, Space Development Agency
2025	Sen. Roger Wicker (R-Miss.)

JOHN R. ALISON AWARD

AFA's highest honor for industrial leadership.

Year	Award Recipient(s)
1992	Norman R. Augustine, Chairman, Martin Marietta
1993	Daniel M. Tellep, Chm. and CEO, Lockheed
1994	Kent Kresa, CEO, Northrop Grumman
1995	C. Michael Armstrong, Chm. and CEO, Hughes Aircraft
1996	Harry Stonecipher, Pres. and CEO, McDonnell Douglas
1997	Dennis J. Picard, Chm. and CEO, Raytheon
1998	Philip M. Condit, Chm. and CEO, Boeing
1999	Sam B. Williams, Chm. and CEO, Williams International
2000	Simon Ramo and Dean E. Wooldridge, missile pioneers
2001	George David, Chm. and CEO, United Technologies
2002	Sydney Gillibrand, Chm., AMEC; and Jerry Morgensen, Pres. and CEO, Hensel Phelps Construction
2003	Joint Direct Attack Munition Industry Team, Boeing
2004	Thomas J. Cassidy Jr., Pres. and CEO, General Atomics Aeronautical Systems
2005	Richard Branson, Chm., Virgin Atlantic Airways and Virgin Galactic
2006	Ronald D. Sugar, Chm. and CEO, Northrop Grumman
2007	Boeing and Lockheed Martin
2008	Bell Boeing CV-22 Team, Bell Helicopter Textron, and Boeing
2009	General Atomics Aeronautical Systems Inc.
2010	Raytheon
2011	United Launch Alliance
2012	Boeing
2013	X-51A WaveRider Program, Boeing, Aerojet Rocketdyne, and Air Force Research Laboratory
2014	C-17 Globemaster III, Boeing
2015	F-22 Raptor, Lockheed Martin
2016	SpaceX
2017	Northrop Grumman
2018	Skunk Works, Lockheed Martin
2019	Draken International
2020	Marilyn Hewson
2021	Tory Bruno, CEO, United Launch Alliance
2022	Jeff Babione, COO, Sierra Space
2023	Neal Blue, Chairman/CEO, and Linden Blue, Vice Chairman, General Atomics
2024	Victus Nox (Space Sys. Command, Millennium Space, and Firefly Aerospace)
2025	BAE Systems

AFA LIFETIME ACHIEVEMENT AWARD

The award recognizes a lifetime of work in the advancement of aerospace.

Year	Award Recipient(s)
2003	Maj. Gen. John R. Alison, USAF (Ret.); Sen. John H. Glenn Jr.; Maj. Gen. Jeanne M. Holm, USAF (Ret.); Col. Charles E. McGee, USAF (Ret.); Gen. Bernard A. Schriever, USAF (Ret.)
2004	Gen. Russell E. Dougherty, USAF (Ret.); Florene Miller Watson
2005	Sen. Daniel K. Inouye; William J. Perry; Patty Wagstaff
2007	CMSAF Paul W. Airey, USAF (Ret.)
2008	Col. George E. Day, USAF (Ret.); Gen. David C. Jones, USAF (Ret.); Harold Brown
2009	Doolittle Raiders; Tuskegee Airmen; James R. Schlesinger
2010	Col. Walter J. Boyne, USAF (Ret.); Andrew W. Marshall; Gen. Lawrence A. Skantze, USAF (Ret.); Women Airforce Service Pilots
2011	Natalie W. Crawford; Lt. Gen. Thomas P. Stafford, USAF (Ret.); Gen. Larry D. Welch, USAF (Ret.); Heavy Bombardment Crews of WWII; Commando Sabre Operation-Call Sign Misty
2012	Gen. James P. McCarthy, USAF (Ret.); Vietnam War POWs; Berlin Airlift Aircrews; Korean War Airmen; Fighter Pilots of World War II
2013	Maj. Gen. Joe H. Engle, USAF (Ret.); US Rep. Sam Johnson; The Arlington Committee of the Air Force Officers' Wives' Club—"The Arlington Ladies"
2014	Brig. Gen. James A. McDivitt, USAF (Ret.); Civil Air Patrol—World War II veterans; American Fighter Aces
2015	R. A. "Bob" Hoover; Eugene F. "Gene" Kranz; Gen. Michael V. Hayden, USAF (Ret.)
2016	Maj. Gen. Claude M. Bolton Jr., USAF (Ret.); Lt. Col. John T. Correll, USAF (Ret.); Gen. Charles A. Horner, USAF (Ret.); Lt. Gen. James M. Keck, USAF (Ret.); Gen. Richard B. Myers, USAF (Ret.)
2017	Gen. Ronald R. Fogleman, USAF (Ret.); Col. Clarence E. "Bud" Anderson, USAF (Ret.); Elinor Otto; Lafayette Escadrille Memorial Foundation
2018	Maj. Gen. Alfred K. Flowers, USAF (Ret.); Dan Friedkin; Air Force Scientific Advisory Board; Air Force Enlisted Village; Air Force Aid Society
2019	Gen. John A. Shaud, USAF (Ret.); Gen. T. Michael Moseley, USAF (Ret.); Dr. Benjamin Lambeth
2020	Gen. Lloyd "Fig" Newton, USAF (Ret.); Gen. John M. Loh, USAF (Ret.); Maj. Gen. Michael Collins, USAF (Ret.)
2021	CMSAF James M. McCoy, USAF (Ret.)
2022	Gen. Lance W. Lord, USAF (Ret.); Brig. Gen. Wilma Vaught, USAF (Ret.)
2023	Dr. Paul Kaminski, Chairman/CEO Technovation, Inc.; Pioneers of the Red Flag, presented to Lt. Gen. Glen "Wally" Moorehead, USAF (Ret.)
2024	Norman Augustine, Aerospace Businessman
2025	Gen. Philip M. Breedlove, USAF (Ret.); Gen. Kevin P. Chilton, USAF (Ret.); Gen John P. Jumper, USAF (Ret.); Gen. Gregory S. Martin, USAF (Ret.)

Jud McCrehin/staff

Chilton **Breedlove** **Jumper** **Martin**

The 2025 Lifetime Achievement Award recipients were recognized for having made lasting contributions to aerospace power and national defense. (L-R): Gen. Kevin Chilton, USAF (Ret.); Gen. Philip M. Breedlove, USAF (Ret.); Gen John P. Jumper, USAF (Ret.); Gen. Gregory S. Martin.

(To learn more, visit: https://www.afa.org/afa-congratulates-2025-lifetime-achievement-award-winners/)

JEROME O'MALLEY SPACE VISIONARY LEADERSHIP AWARD

The award recognizes the importance of vision, risk taking, and innovation needed to deliver unparalled Space Force capabilities.

Year	Award Recipient(s)
2021	U.S. Space Force
2022	Lt. Gen. Bill Liquori, Deputy Chief of Space Operations for Strategy, Plans, Programs, Requirements, and Analysis
2023	Maj. Gen. Shawn Bratton, special assistant of the Chief of Space Operations
2024	Gen. B. Chance Saltzman, Chief of Space Operations
2025	No Award Given

AFA Field Awards

GOLD LIFE MEMBER CARD

Awarded to members whose AFA record, production, and accomplishments on a national level have been outstanding over a period of years.

Name	Year	Card No.
Gill Robb Wilson	1957	1
Jimmy Doolittle	1959	2
Arthur C. Storz Sr.	1961	3
Julian B. Rosenthal	1962	4
Jack B. Gross	1964	5
George D. Hardy	1965	6
Jess Larson	1967	7
Robert W. Smart	1968	8
Martin M. Ostrow	1973	9
James H. Straubel	1980	10
Martin H. Harris	1988	11
Sam E. Keith Jr.	1990	12
Edward A. Stearn	1992	13
Dorothy L. Flanagan	1994	14
John O. Gray	1996	15
Jack C. Price	1997	16
Nathan H. Mazer	2002	17
John R. Alison	2004	18
Donald J. Harlin	2009	19
James M. McCoy	2013	20
George M. Douglas	2014	21
John A. Shaud	2016	22
Mary Anne Thompson	2018	23
Bill Croom	2023	24

AFA MEMBER OF THE YEAR AWARD

State names refer to recipient's home state at the time of the award.

Year	Award Recipient(s)
1953	Julian B. Rosenthal (N.Y.)
1954	George A. Anderl (Ill.)
1955	Arthur C. Storz (Neb.)
1956	Thos. F. Stack (Calif.)
1957	George D. Hardy (Md.)
1958	Jack B. Gross (Pa.)
1959	Carl J. Long (Pa.)
1960	O. Donald Olson (Colo.)
1961	Robert P. Stewart (Utah)
1962	No award
1963	N. W. DeBerardinis (La.) and Joe L. Shosid (Texas)
1964	Maxwell A. Kriendler (N.Y.)
1965	Milton Caniff (N.Y.)
1966	William W. Spruance (Del.)
1967	Sam E. Keith Jr. (Texas)
1968	Marjorie O. Hunt (Mich.)
1969	(No presentation)
1970	Lester C. Curl (Fla.)
1971	Paul W. Gaillard (Neb.)
1972	J. Raymond Bell (N.Y.) and Martin H. Harris (Fla.)
1973	Joe Higgins (Calif.)
1974	Howard T. Markey (D.C.)
1975	Martin M. Ostrow (Calif.)
1976	Victor R. Kregel (Texas)
1977	Edward A. Stearn (Calif.)
1978	William J. Demas (N.J.)
1979	Alexander C. Field Jr. (Ill.)
1980	David C. Noerr (Calif.)
1981	Daniel F. Callahan (Fla.)
1982	Thomas W. Anthony (Md.)
1983	Richard H. Becker (Ill.)
1984	Earl D. Clark Jr. (Kan.)
1985	George H. Chabbott (Del.) and Hugh L. Enyart (Ill.)
1986	John P.E. Kruse (N.J.)
1987	Jack K. Westbrook (Tenn.)
1988	Charles G. Durazo (Va.)
1989	Oliver R. Crawford (Texas)
1990	Cecil H. Hopper (Ohio)
1991	George M. Douglas (Colo.)
1992	Jack C. Price (Utah)
1993	Lt. Col. James G. Clark (D.C.)
1994	William A. Lafferty (Ariz.)
1995	William N. Webb (Okla.)
1996	Tommy G. Harrison (Fla.)
1997	James M. McCoy (Neb.)
1998	Ivan L. McKinney (La.)
1999	Jack H. Steed (Ga.)
2000	Mary Anne Thompson (Va.)
2001	Charles H. Church Jr. (Kan.)
2002	Thomas J. Kemp (Texas)
2003	W. Ron Goerges (Ohio)
2004	Doyle E. Larson (Minn.)
2005	Charles A. Nelson (S.D.)
2006	Craig E. Allen (Utah)
2007	William D. Croom Jr. (Texas)
2008	John J. Politi (Texas)
2009	David R. Cummock (Fla.)
2010	L. Boyd Anderson (Utah)
2011	Steven R. Lundgren (Alaska)
2012	S. Sanford Schlitt (Fla.)
2013	Tim Brock (Fla.)
2014	James W. Simons (N.D.)
2015	James R. Lauducci (Va.)
2016	David T. Buckwalter (Texas)
2017	James T. Hannam (Va.)
2018	Russell V. Lewey (Ala.)
2019	Susan Broderick Mallett (Ala.)
2020	Mark Tarpley (Okla.)
2021	Gabrielle "Gabbe" Kearney (Alaska)
2022	Linda McMahon (Va.)
2023	Roberta "Bobi" Oates (Nev.)
2024	Janelle Stafford (Okla.)
2025	Gavin "Mac" MacAloon (Fla.)

Jud McCrehin/staff

David "Buck" Buckwalter Distinguished Sustained Aerospace Education (DSAE) Award

Presented to an individual AFA member whose record overwhelmingly demonstrates distinguished sustained service in any support of the educational mission of the Air & Space Forces Association over a period of years. **Stephen Gourley was awarded the DSAE award for his continuous work with the Education Council, as a founder of the StellarXplorers program, and his commitment to AFA.**

Year	Name
2008	Richard Ortega
2009	Marry Anne Thompson
2010	No Award Given
2011	Susan B. Mallett
2012	Gregory Bruce White
2013	Bonnie B. Callahan
2014	No Award Given
2015	L. Boyd Anderson
2016	Jack C. Price
2017	No Award Given
2018	Bill Croom
2019	David T. "Buck" Buckwalter
2020	Regina "Gina" Giles
2021	Richard "Dick" Bundy
2022	No Award Given
2023	Jim Hannam
2024	No Award Given
2025	Stephen Gourley

AFA CHAIR'S AEROSPACE EDUCATION ACHIEVEMENT AWARD

For long-term commitment to aerospace education, making a significant impact nationwide.

Year	Award Recipient(s)
2009	ExxonMobil Foundation
2010	*USA Today*
2011	The National Science Foundation
2012	The Military Channel
2013	The Civil Air Patrol Aerospace Education Program
2014	Department of Defense STARBASE Program
2015	Northrop Grumman
2016	Harry Talbot
2017	Analytical Graphics, Inc.
2018	Project Lead the Way
2019	Air Force Junior Reserve Officer Training Corps.
2020	Bernard K. "Bernie" Skoch
2021	The Mitchell Institute for Aerospace Studies
2022	Arnold Air Society and Silver Wings
2023	Rolls-Royce
2024	No Award Given
2025	Daniel P. Woodward

Chair, AFA Board of Directors Citation Award

Awarded to those individual AFA members whose distinguished contribution to AFA in a specific field has improved and elevated the effectiveness of the Association in a national sense.

Richard Baldwin
Frances Bradshaw
Ross Lambert
Marianne Tango Williams

Aerospace Education Excellence Award

Presented for excellence in aerospace education programming. To qualify, a chapter must have received the Aerospace Education Achievement Award this year.

Small Chapter
Mel Harmon Chapter, Colo.
President Michael Sumida

Large Chapter

Medium Chapter
No Award

Charleston Chapter, S.C.
President Makenzie Guerra

Extra-Large Chapter
Tucson Chapter, Ariz.
President Walter Saeger

Aerospace Education Achievement Award

Presented to chapters for outstanding achievement in aerospace education programming.

Alamo Chapter, Texas
President Jennifer Deinhart
Albuquerque Chapter, N.M.
President Fred Harsany

Ak-Sar-Ben Chapter, Neb.
President Chris Canada

Charleston Chapter, S.C.
President Makenzie Guerra

Cheyenne Cowboy Chapter, Wyo.
President Scott Fox
Chuck Yeager Chapter, W.Va.
President Peter Jones

David C. Jones Chapter, N.D.
President James Bowman
D.W. Steele Sr. Memorial Chapter, Va.
President Darian Padilla

East Georgia Chapter, Ga.
President Laurie Orth
Enid Chapter, Okla.
President Tony Weedn
Fort Meade Chapter, Md.
President Izeck Kohler

Gen. E.W. Rawlings Chapter, Minn.
President Roman Hund

Greater Seattle Chapter, Wash.
President Gordon Broadbent
Hurlburt Chapter, Fla.
President Dann Matizza

Lance P. Sijan Chapter, Colo.
President Caty Rozema

Lincoln Chapter, Neb.
President Kenneth Brownell
Martin H. Harris Chapter, Fla.
President Sharon Branch

Mel Harmon Chapter, Colo.
President Michael Sumida

Mile High Chapter, Colo.
President Cliff Klein
Montgomery Chapter, Ala.
President Scott Key

Northeast Texas Chapter, Texas
President Zachary Hill

Paul Revere Chapter, Mass.
President Michael Harm

Robert E. Huyser Chapter, Colo.
President Michael Peterson
Sam Johnson Chapter, Texas
President Bob Gehbauer

Swamp Fox Chapter, S.C.
President David Hanson

Tucson Chapter, Ariz.
President Walter Saeger

DONALD W. STEELE SR. MEMORIAL AWARD

Air & Space Forces Association Unit of the Year.

Year	Award Recipient(s)
1953	San Francisco Chapter
1954	Santa Monica Area Chapter (Calif.)
1955	San Fernando Valley Chapter (Calif.)
1956	Utah State AFA
1957	H. H. Arnold Chapter (N.Y.)
1958	San Diego Chapter
1959	Cleveland Chapter
1960	San Diego Chapter
1961	Chico Chapter (Calif.)
1962	Fort Worth Chapter (Texas)
1963	Colin P. Kelly Chapter (N.Y.)
1964	Utah State AFA
1965	Idaho State AFA
1966	New York State AFA
1967	Utah State AFA
1968	Utah State AFA
1969	No Award
1970	Georgia State AFA
1971	Middle Georgia Chapter
1972	Utah State AFA
1973	Langley Chapter (Va.)
1974	Texas State AFA
1975	Alamo Chapter (Texas) and San Bernardino Area Chapter (Calif.)
1976	Scott Memorial Chapter (Ill.)
1977	Thomas B. McGuire Jr. Chapter (N.J.)
1978	Thomas B. McGuire Jr. Chapter (N.J.)
1979	Brig. Gen. Robert F. Travis Chapter (Calif.)
1980	Central Oklahoma (Gerrity) Chapter
1981	Alamo Chapter (Texas)
1982	Chicagoland-O'Hare Chapter (Ill.)
1983	Charles A. Lindbergh Chapter (Conn.)
1984	Scott Memorial Chapter (Ill.) and Colorado Springs/Lance Sijan P. Chapter (Colo.)
1985	Cape Canaveral Chapter (Fla.)
1986	Charles A. Lindbergh Chapter (Conn.)
1987	Carl Vinson Memorial Chapter (Ga.)
1988	Gen. David C. Jones Chapter (N.D.)
1989	Thomas B. McGuire Jr. Chapter (N.J.)
1990	Gen. E. W. Rawlings Chapter (Minn.)
1991	Paul Revere Chapter (Mass.)
1992	Central Florida Chapter and Langley Chapter (Va.)
1993	Green Valley Chapter (Ariz.)
1994	Langley Chapter (Va.)
1995	Baton Rouge Chapter (La.)
1996	Montgomery Chapter (Ala.)
1997	Central Florida Chapter
1998	Ark-La-Tex Chapter (La.)
1999	Hurlburt Chapter (Fla.)
2000	Wright Memorial Chapter (Ohio)
2001	Lance P. Sijan Chapter (Colo.)
2002	Eglin Chapter (Fla.)
2003	Hurlburt Chapter (Fla.)
2004	Carl Vinson Memorial Chapter (Ga.)
2005	Central Florida Chapter
2006	Enid Chapter (Okla.)
2007	Central Oklahoma (Gerrity) Chapter
2008	Lance P. Sijan Chapter (Colo.)
2009	Paul Revere Chapter (Mass.)
2010	C. Farinha Gold Rush Chapter (Calif.)
2011	Lance P. Sijan Chapter (Colo.)
2012	Hurlburt Chapter (Fla.)
2013	Paul Revere Chapter (Mass.)
2014	D. W. Steele Sr. Memorial Chapter (Va.)
2015	Lance P. Sijan Chapter (Colo.)
2016	Paul Revere Chapter (Mass.)
2017	Enid Chapter (Okla.)
2018	Langley Chapter (Va.)
2019	Wright Memorial Chapter (Ohio)
2020	Mile High Chapter (Colo.)
2021	Paul Revere Chapter (Mass.)
2022	Mel Harmon Chapter (Colo.)
2023	Gen. Bernard A. Schriever Chapter (Calif.)
2024	Wright Memorial Chapter (Ohio)
2025	Paul Revere Chapter (Mass.)

Arthur C. Storz Sr. Membership Award

Presented to that AFA chapter which produces the highest number of new members during the 12-month period ending June 20, 2025, as a percentage of total chapter membership as of June 30, 2024.

Mount Clemens Chapter, Mich.

President Doug Slocum

Outstanding State Organization

COLORADO

Outstanding Chapters by Size

Small Chapter
Mel Harmon Chapter, Colo.
President Michael Sumida

Medium Chapter
No Award

Large Chapter
Northeast Chapter, Texas
President Vance Clarke

Extra-Large Chapter
D.W. Steele Sr. Memorial Chapter, Va.
President Darian Padilla

AFA's 2025 Teacher of the Year Award

AFA named **Ashlie Smith** the 2025 Teacher of the Year sponsored by Rolls-Royce North America Defense. The annual award recognizes exceptional teachers who inspire their students through innovative approaches to science, technology, engineering, and math (STEM) education.

AFA Teacher of the Year Ashlie Smith, was one of the leaders of a STEM teachers workshop held in Lagos, Nigeria, last year that connected students across cultures by way of science projects. "Aerospace is … a launchpad," said Smith.

CyberPatriot Awards

CyberPatriot

CyberPatriot Mentor of the Year

Xinle Yang
Westview High School
(Portland, Ore.)

CyberPatriot

CyberPatriot Coach of the Year

Kavidha Ingole
Scouts BSA Troop 261
(Frisco, Texas)

Unit Exceptional Service Awards (ESA)

ESA United Forces & Families
Mile High Chapter, Colo.
President Cliff Klein

ESA Best Single Program
Sam Johnson Chapter, Texas
President Bob Gehbauer

ESA Communications
D.W. Steele Sr. Memorial Chapter, Va.
President Darian Padilla

ESA Community Partners-
-Small Chapter
Fairbanks Midnight Sun Chapter, Alaska
President Jeff Putnam
-Medium Chapter
Enid Chapter, Okla.
President Tony Weedn
-Large Chapter
Northeast Texas Chapter, Texas
President Zachary Hill
-Extra-Large Chapter
Tennessee Valley Chapter, Ala.
President John Pennell
-Over 1,100
Central Oklahoma Gerrity Chapter, Okla.
President Tim Frisby

ESA Community Relations
Hurlburt Chapter, Fla.
President Dann Matizza

ESA Overall Programming
Paul Revere Chapter, Mass.
President Michael Harm

ESA Veterans Affairs
Paul Revere Chapter, Mass.
President Michael Harm

ESA Unit AAS/SW Integration
D.W. Steele Sr. Memorial Chapter, Va.
President Darian Padilla

ESA Heritage
Mel Harmon Chapter, Colo.
President Mike Sumida

ESA AIMS (Advocates Inspiring Military Service)
-Small
Mel Harmon Chapter, Colo.
President Michael Sumida
Medium -Not Awarded
Large-Not Awarded
-Extra-Large
D.W. Steele Sr. Memorial Chapter, Va.
President Darian Padilla

Jack Gross Award

Presented to the chapter in each size category with the highest number of new members as a percentage of chapter size at the beginning of the membership year. A minimum of 10 is required.

Small Chapter
Spangdahlem Chapter, Germany
President Jason Eastman

Medium Chapter
MiG Alley Chapter, Korea
President Trenton Schreyer

Large Chapter
Northeast Texas Chapter, Texas
President Zachary Hill

Extra-Large Chapter
Mount Clemens Chapter, Mich.
President Doug Slocum

Chapter Size Larger Than 1,100
Central Oklahoma Gerrity Chapter, Okla.
President Tim Frisby

Individual Awards by Region

Presented for outstanding service.

Medal of Merit
Awarded for exceptional services in local, regional, or national fields and shall denote great initiative on the part of the recipient for specific achievements.

Exceptional Service Award
Presented to those individual AFA members who have performed exceptional services for AFA in local, regional, or national fields.

Central East

Medal of Merit
David Baylor
Tyler Johnson
Izeck Kohler
James Merchant
Karl Schrader
Tim Tanbonliong
Jay Thompson
Derald Wentzien
Paul Willard

Exceptional Service Award
Bob Hill
Lloyd Swede
Adrian Zollinger

Far West

Medal of Merit
Scott Beidleman
Tony Della-Moretta
Bill Harding
Jim McFarlin
Steve Pluntze

Florida

Medal of Merit
Susan Ault-Davis
Sharon Branch
Thomas Carney
Emily Farkas
Deb Hutto

Great Lakes

Medal of Merit
Brian Birchmeier
Randy Clark
Frank Merrill
Carl Shofner
Tamara Shoemaker

Exceptional Service Award
Dave Babcock
Doug Slocum

Midwest

Medal of Merit
Louis Campbell
James Giles
Frank Kimball
Bill Mavity

New England

Medal of Merit
Talisa Bell

Exceptional Service Award
Michael Harm
Michael Kearns

North Central

Medal of Merit
James Bowman
Cole Kirby
Donald Mikitta

Exceptional Service Award
George Masters
Thomas Theis

Northeast

Medal of Merit
Meredith Camelletti
Fred Di Fabio
Bill Petzinger
Janet Woods

Northwest

Medal of Merit
Gordon Broadbent
Sarah Broadbent
Mark Minickiello
E. Kent Wong

Rocky Mountain

Medal of Merit
Laura Conn

Exceptional Service Award
Kenneth Bowens
Mark "Yak" Maryak

South Central

Medal of Merit
Maura Barton
Stefan Eisen
Laura Meins
Greg Sharpe

Exceptional Service Award
Betty McCoy
Patrick McCoy

Southeast

Medal of Merit
Makenzie Guerra
Greggia Sylvester

Exceptional Service Award
Cheryl Moye
Laura Orth

Southwest

Medal of Merit
Jennifer Cunningham
Bill Foraker
Marie Lankford
Vickie Jo Ryder
Markesha Wilson

Exceptional Service Award
Walter Saeger

Texoma

Medal of Merit
Ahna Arcturus
Jordan Arcturus
Mike Bofferding
Ross Fasolino
Bryan Hielscher
Priscilla Ashley Miller

Exceptional Service Award
Vance Clark
Ed Garland
Glenn Medeiros
Holly Olson
Joseph Peltier
Jerry Ransom

Community Partner Awards

GOLD AWARD

Presented to chapters whose Community Partners represent at least 6 percent of overall chapter membership, with a minimum number of Community Partners. The minimum number is determined by chapter size.

-Fairbanks Midnight Sun Chapter, Alaska
-Enid Chapter, Okla.
-Northeast Texas Chapter, Texas

ACHIEVEMENT AWARD

Presented in the field to chapters whose Community Partners represent at least 3 percent of overall chapter membership, with a minimum number of Community Partners. The minimum number is determined by chapter size.

Lincoln Chapter, Neb.
Meridian Chapter, Miss.

Special Recognition Membership Awards

STATE GROWTH

This state has realized a growth in total membership from June 2024 to June 2025:

Alaska
Alabama
Arizona
Arkansas
Colorado
Delaware
District of Columbia
Florida
Georgia
Hawaii
Iowa
Idaho
Louisiana
Maryland
Michigan
Mississippi
Missouri
Montana
Nevada
New Jersey
New Mexico
New York
North Carolina
North Dakota
Oklahoma
Oregon
Pennsylvania
South Carolina
Tennessee
Texas
Utah
Virginia
Washington
Wyoming

REGION GROWTH

This region has realized a growth in total membership from June 2024 to June 2025:

Central East Region
European Region
Far West Region
Florida Region
Midwest Region
New England Region
North Central Region
Northeast Region
Northwest Region
Pacific Region
Rocky Mountain Region
South Central Region
Southeast Region
Southwest Region
Texoma Region

CHAPTER GROWTH

These chapters have realized a growth in total membership from June 2024 to June 2025:

Abilene Chapter, Texas
Alamo Chapter, Texas
Albany-Hudson Valley Chapter, N.Y.
Albuquerque Chapter, N.M.
Altus Chapter, Okla.
Ark-La-Tex Chapter, La.
Austin Chapter, Texas
BG Frederick W. Castle Chapter, N.J.
BG Harrison R. Thyng Chapter, N.H.
Big Sky Chapter, Mont.
Blue Ridge Chapter, N.C.
Bob Newman Cape Fear Chapter, N.C.
Brig. Gen. Bill Spruance Chapter, Del.
Capt. Eddie Rickenbacker Memorial Chapter, Ohio
Carl Vinson Memorial Chapter, Ga.
Central Maryland Chapter, Md.
Central Oklahoma Gerrity Chapter, Okla.
Charlemagne Chapter, Germany
Charleston Chapter, S.C.
Cheyenne Cowboy Chapter, Wyo.
Col. Bud West Chapter, Fla.
Columbia Gorge Chapter, Ore.
Columbia Palmetto Chapter, S.C.
Cochise Chapter, Ariz.
Concho Chapter, Texas
David D. Terry Jr. Chapter, Ariz.
Del Rio Chapter, Texas
Delaware Galaxy Chapter, Del.
Dobbins Chapter, Ga.
Dolomiti Chapter, Italy
Donald W. Steele Sr. Memorial Chapter, Va.
East Georgia Chapter, Ga.
Edward J. Monaghan Chapter, Alaska
Eglin Chapter, Fla.
Enid Chapter, Okla.
Everett R. Cook, Tenn.
Fairbanks Midnight Sun Chapter, Alaska
Falcon Chapter, Fla.
Florida West Coast Chapter, Fla.
Fort Meade Chapter, Md.
Frank Luke Chapter, Ariz.
Gen. James R. McCarthy Chapter, Fla.
Gen. Bernard A. Schriever LA Chapter, Calif.
Gen. Bruce K. Holloway Chapter, Tenn.
Gen. Carl A. Spaatz Chapter, N.Y.
Gen. Charles L. Donnelly Jr. Chapter, Texas
Gen. Charles A. Gabriel Chapter, Va.
Gen. David C. Jones Chapter, N.D.
Gen. Doolittle LA Area Chapter, Calif.
Gen. H. H. Arnold Memorial Chapter, Tenn.
Gen. Robert F. Travis Chapter, Calif.
Gen. Russell E. Dougherty Chapter, Ky.
Gold Coast Chapter, Fla.
Golden Gate Chapter, Calif.
Golden Triangle Chapter, Miss.
Harry S. Truman Chapter, Mo.
Hawaii Chapter, Hawaii
Hurlburt Chapter, Fla.
Inland Empire Chapter, Wash.
Joe-Walker-Mon Valley Chapter, Pa.
Keystone Chapter, Japan
Lake Superior Northland Chapter, Mich.
Lance P Sijan Chapter, Colo.
Langley Chapter, Va.
L.D. Bell Niagara Frontier Chapter, N.Y.
Llano Estacado Chapter, N.M.
Lloyd R. Leavitt Jr. Chapter, Mich.
Long Island Chapter, N.Y.
Lt. Col. B.D. Buzz Wagner Chapter, Pa.
Lt. Erwin R. Bleckley Chapter, Kan.
Maj. Gen. Oris B. Johnson Chapter, La.
Martin H. Harris Chapter, Fla.
McChord Field Chapter, Wash.
Mel Harmon Chapter, Colo.
Meridian Chapter, Miss.
Miami-Homestead Chapter, Fla.
MiG Alley Chapter, Korea
Mile High Chapter, Colo.
Montgomery Chapter, Ala.
Mount Clemens Chapter, Mich.
Nation's Capital Chapter, D.C.
Northern Utah Chapter, Utah
Ramstein Chapter, Germany
Red River Valley Chapter, N.D.
Richard I. Bong Chapter, Minn.
Richmond Chapter, Va.
Robert H. Goddard Chapter, Calif.
Rushmore Chapter, S.D.
Salt Lake City Chapter, Utah
San Diego Chapter, Calif.
San Jacinto Chapter, Texas
Sam Johnson Chapter, Texas
Scott Berkeley Chapter, N.C.
Scott Memorial Chapter, Ill.
Scott Van Cleef Chapter, Va.
Snake River Valley Chapter, Idaho
South Alabama Chapter, Ala.
South Georgia Chapter, Ga.
Space Coast Chapter, Fla.
Spangdahlem Chapter, Germany
Stan Hryn Monterey Bay Chapter, Calif.
Steel Valley Chapter, Ohio
Swamp Fox Chapter, S.C.
Tennessee Ernie Ford Chapter, Calif.
Tennessee Valley Chapter, Ala.
The Red Tail Memorial Chapter, Fla.
Thomas W. Anthony Chapter, Md.
Thunderbird Chapter, Nev.
Tucson Chapter, Ariz.
Tulsa Chapter, Okla.
Tyndall Chapter, Fla.
United Kingdom Chapter, Europe
Ute-Rocky Mountain Chapter, Utah
Waterman-Twining Chapter, Fla.
White Sands Chapter, N.M.
Whiteman Chapter, Mo.
William J. "Pete" Knight Chapter, Calif.
Wright Memorial Chapter, Ohio
York-Lancaster Chapter, Pa.

AFA Chapter Members by Region, State, and Chapter

These figures indicate the number of affiliated members as of September 2025. Listed below the name of each region is the Region President.

CENTRAL EAST REGION 18,486

Linda McMahon

Delaware 473
Brig. Gen. Bill Spruance 121
Delaware Galaxy 351
Liberty Bell 1

District of Columbia 2,504
Nation's Capital 2,504

Maryland 4,279
Central Maryland 575
Fort Meade 1,530
Thomas W. Anthony 2,174

Virginia 11,000
Donald W. Steele Sr. Memorial 5,834
Gen. Charles A. Gabriel 13
Langley 2,238
Richmond 2
Scott Van Cleef 3,013
Northern Shenandoah Valley 5

West Virginia 230
Chuck Yeager 230

FAR WEST REGION 8,525

Wayne Kauffman

California 7,426
Bob Hope 487
Brig. Gen. Robert Cardenas San Diego 646
Brig. Gen. Robert F. Travis 521
C. Farinha Gold Rush 752
David J. Price/Beale 274
Fresno* 399
Gen. B. A. Schriever Los Angeles 793
General Doolittle Los Angeles Area* 816
Golden Gate* 438
High Desert 91
Orange County/Gen. Curtis E. LeMay 558
Palm Springs 276
Robert H. Goddard 466
Stan Hryn Monterey Bay 157
Tennessee Ernie Ford 353
William J. "Pete" Knight 399

Hawaii 1,099
Hawaii* 1,099

FLORIDA REGION 10,145

Mike Liquori

Florida 9,095
Gen. James R. McCarthy 1,392
Col. H. M. "Bud" West 556
Eglin 468
Falcon 1,126
Florida Highlands 10
Florida West Coast 184
Gold Coast 540
Hurlburt 1,057
Martin H. Harris 1,052
Miami-Homestead 385
Red Tail Memorial 423
Space Coast 1,199
Tyndall 468
Waterman-Twining 1,217

GREAT LAKES REGION 7,783

Dave Babcock

Indiana 1,047
Central Indiana 334
Fort Wayne 105
Grissom Memorial 200
Lawrence D. Bell Museum 196
P-47 Memorial Chapter 104
Southern Indiana 108

Kentucky 604
Gen. Russell E. Dougherty 378
Lexington 226

Michigan 1,629
Ann Arbor 61
Battle Creek 12
Lake Superior Northland 155
Lloyd R. Leavitt Jr. 291
Mount Clemens 1,110

Ohio 4,503
Capt. Eddie Rickenbacker Memorial* 462
Frank P. Lahm 349
Gen. Joseph W. Ralston 389
North Coast* 168
Steel Valley 128
Wright Memorial* 3,007

MIDWEST REGION 5,871

Fred Niblock

Illinois 2,223
Chicagoland-O'Hare 755
Scott Memorial 1,468

Iowa 384
Fort Dodge 24
Gen. Charles A. Horner 175
Northeast Iowa 147
Richard D. Kisling 38

Kansas 541
Lt. Erwin R. Bleckley 354
Maj. Gen. Edward R. Fry 187

Missouri 1,504
Harry S. Truman 511
Spirit of St. Louis 507
Whiteman 486

Nebraska 1,219
Ak-Sar-Ben 1,010
Lincoln 209

NEW ENGLAND REGION 2,713

David DeNofrio

Connecticut 495
Flying Yankees/Gen. George C. Kenney 272
Lindbergh/Sikorsky 223

Massachusetts 1,269
Minuteman 203
Otis 169
Paul Revere 667
Pioneer Valley 230

New Hampshire 554
Brig. Gen. Harrison R. Thyng 554

Rhode Island 205
Metro Rhode Island 164
Newport Blue & Gold 41

Vermont 190
Green Mountain 190

NORTH CENTRAL REGION 3,067

Larry Sagstetter

Minnesota 857
Gen. E. W. Rawlings 709
Richard I. Bong 148

Montana 371
Big Sky 306
Bozeman 65

North Dakota 565
Gen. David C. Jones 277
Happy Hooligan 67
Red River Valley 221

South Dakota 481
Dacotah 190
Rushmore 291

Wisconsin 793
Billy Mitchell 793

NORTHEAST REGION 4,918

Patrick Kon

New Jersey 1,104
Brig. Gen. Frederick W. Castle 168
Hangar One 139
Highpoint 41
Mercer County 89
Sal Capriglione 194
Shooting Star 140
Thomas B. McGuire Jr. 333

New York 1,923
Albany-Hudson Valley* 296
Finger Lakes 331
Gen. Carl A. Spaatz 125
Genesee Valley 179
Iron Gate 220
L. D. Bell-Niagara Frontier 218
Long Island 438
Pride of the Adirondacks 116

Pennsylvania 1,891
Altoona 117
Joe Walker-Mon Valley 154
Lehigh Valley 126
Liberty Bell 475
Lt. Col. B. D. "Buzz" Wagner 89
Mifflin County* 71
Olmsted 218
Pocono Northeast 156
Total Force 287
York-Lancaster 198

NORTHWEST REGION 4,168

Bill Striegel

Alaska 650
Edward J. Monaghan 499
Fairbanks Midnight Sun 151

Idaho 457
Snake River Valley 457

Oregon 693
Bill Harris 175
Columbia Gorge* 518

Washington 2,368
Greater Seattle 667
Inland Empire 669
McChord Field 1,032

ROCKY MOUNTAIN REGION 7,725

Linda Aldrich

Colorado 5,892
Gen. Robert E. Huyser 116
Lance P. Sijan 3,341
Mel Harmon 125
Mile High 2,310

Utah 1,363
Northern Utah 452
Salt Lake City 420
Ute-Rocky Mountain 491

Wyoming 470
Cheyenne Cowboy 470

SOUTH CENTRAL REGION 7,010

Susan Mallett

Alabama 2,521
Birmingham 298
Montgomery 1,393
South Alabama 149
Tennessee Valley 681

Arkansas 831
David D. Terry Jr. 517
Lewis E. Lyle 314

Louisiana 1,088
Ark-La-Tex 693
Maj. Gen. Oris B. Johnson 395

Mississippi 1,041
Golden Triangle 351
Meridian 147
Mississippi Gulf Coast 543

Tennessee 1,529
Everett R. Cook 294
Gen. Bruce K. Holloway 651
Gen. H. H. Arnold Memorial 139
Maj. Gen. Dan F. Callahan 445

SOUTHEAST REGION 7,481

Mike Trotter

Georgia 3,077
Carl Vinson Memorial 1,173
Dobbins 1,358
East Georgia 561
South Georgia 285

North Carolina 2,373
Blue Ridge 388
Bob Newman Cape Fear 185
Kitty Hawk 36
Pope 686
Scott Berkeley 339
Tarheel 739

South Carolina 2,031
Charleston 660
Columbia Palmetto 410
Strom Thurmond 391
Swamp Fox 570

SOUTHWEST REGION 7,107

Alan Berg

Arizona 3,329
Cochise 140
Frank Luke 1,721
Prescott/Goldwater 304
Tucson 1,164

Nevada 1,926
Thunderbird 1,926

New Mexico 1,852
Albuquerque 1,206
Llano Estacado 242
White Sands 404

TEXOMA REGION 13,890

Norm King

Oklahoma 2,441
Altus 263
Central Oklahoma (Gerrity) 1,471
Enid 368
Tulsa 339

Texas 11,449
Abilene 421
Aggieland 188
Alamo 5,194
Austin 1,064
Concho 372
Del Rio 201
Fort Worth 1,178
Gen. Charles L. Donnelly Jr. 305
Northeast Texas 477
Sam Johnston 1,192
San Jacinto 857

OVERSEAS CHAPTERS 1,385

US Air Forces in Europe 859
Erin LeFever (Special Assistant)

Charlemagne: Geilenkirchen, Germany 19
Dolomiti: Aviano AB, Italy 193
Ramstein: Ramstein AB, Germany 402
Spangdahlem: Spangdahlem AB, Germany 110
United Kingdom: RAF Lakenheath, U.K. 135

Pacific Air Forces 526
Jeremy Nickel (Special Assistant)
Keystone: Kadena AB, Japan 181
MiG Alley: Osan AB, South Korea 256
Tokyo: Tokyo 89

*These chapters were chartered before Dec. 31, 1948, and are considered original charter chapters. Ohio's North Coast Chapter was formerly the Cleveland Chapter; Oregon's Columbia Gorge Chapter was formerly the Portland Chapter.

Meet AFA's New Board Chair: Kathleen Ferguson

The Air & Space Forces Association has a new Chair of the Board, Kathleen Ferguson. She succeeds Bernie Skoch, who completed his tenure as AFA's Chair of the Board on Sept. 30.

Ferguson, who was appointed to the seat by AFA delegates in September, has experience as a career civil servant, military spouse, and longtime AFA leader. With more than three decades of service in the Department of the Air Force and a deep connection to military family life, Ferguson brings a powerful blend of professional expertise and personal commitment to her new role.

Here are four themes that define Ferguson's vision for AFA:

1. ADVOCACY GROUNDED IN EXPERIENCE

Ferguson says her 34-year Air Force career happened by chance. What started as a 90-day temporary GS-5 civilian position turned into decades of civil engineering work at Air Force bases, across Air Combat Command, and in the Pentagon. Her career culminated in 2014 as the Acting Assistant Deputy Secretary of the Air Force for Installations, Environment, and Energy.

During that era, Ferguson was well known as a tireless advocate. She testified before Congress countless times, developed policy to strengthen missions, and represented the Air Force on Capitol Hill during difficult moments.

"When I worked in the Pentagon, I worked for a Secretary of the Air Force, and I was the one he always chose to go to Capitol Hill to talk about the tough problems and the things that were not popular, because he knew I would be able to speak rationally, on behalf of the Air Force, and diffuse a difficult situation," she said.

Her reputation for steady, effective advocacy in government service now informs her leadership at AFA.

2. SUPPORTING THE TOTAL FORCE FAMILY

Ferguson has a personal connection to the challenges faced by Airmen, Guardians, and their Families. She raised children while navigating deployments, PCS moves, and the sacrifices that come with military life.

"I never served in uniform. I never flew a fighter aircraft," she said. "But I did serve alongside military men and women for 34 and a half years. I understand the challenges. I understand their needs and can help advocate for things that can assist them to make their jobs easier."

As Chair, she plans to ensure that AFA continues to uphold its mission to support not only the force but also the families who serve alongside them. Whether through chapter-level outreach, national programs like AFA's United Forces & Families (F2) program, or expanded advocacy for family readiness, Ferguson considers the support element of AFA's mission core to our Association's and the Department of the Air Force's long-term health.

3. EXPANDING AFA'S INFLUENCE

For Ferguson, advocacy isn't just a professional skill—it's a calling. She believes AFA must amplify its voice on Capitol Hill and across the country to ensure Airmen, Guardians, and their Families are heard.

"Challenging the status quo in how we do advocacy is probably where I can be the most effective and helpful in driving change in this organization," she said. "We can be a much more powerful voice in Washington, D.C., and across the country by focusing on advocacy."

Jud McCrehin/staff

Kathleen Ferguson brings a wealth of knowledge from the Air Force and AFA, having been an advocate of both for years.

Her decades of experience working with Congress and senior Pentagon leaders give her the tools to achieve that goal. And her vision builds on existing AFA efforts such as AFA AIMS (Advocates to Inspire Military Service). By strengthening and expanding such programs, Ferguson aims to position AFA as a trusted voice for the Total Force.

4. BUILDING A STRONGER, MORE VIABLE AFA

Ferguson has already left her mark on the Association. Since joining the Board in 2021 as a Chairman Appointed Director, she played a key role in securing AFA's new headquarters—a modern, collaborative facility that reflects the organization's expanding mission.

"One of my most critical contributions to the Board has been to advocate for selling the old building in Rosslyn and moving the staff into a brand-new renovated facility with the technology they need to move forward," she said.

FERGUSON'S VISION FOR THE ASSOCIATION

With her deep roots in both military life and federal service, Ferguson is poised to guide AFA through a pivotal chapter—strengthening its advocacy, supporting its families, amplifying its voice, and building a vibrant future.

In outlining her vision, Ferguson named four objectives that will guide her leadership:

1. Increase membership and ensure AFA's voice is heard.
2. Continue supporting Airmen, Guardians, Families, and civilians.
3. Diversify revenue to sustain long-term viability.
4. Promote AFA more broadly to expand its visibility and influence.

These priorities reflect both the challenges and opportunities ahead.

"I want to help lead this organization over the next three years to bring my experience to help improve the viability of AFA for the long term. [I will] continue to support our Airmen, our Families, our Guardians, and the civilians who work side by side with our military members each and every day," Ferguson said.

By Alex Panduro

M2M Cyclists Exceed Fundraising Goal for Wounded Warriors

Eric Dietrich

Then-Air Force Chief of Staff Gen. David Allvin leads the pack at the end of the Memorial to Memorial Ride in Arlington, Va., Sept. 21, 2025. The ride ran from the Wright Brothers National Memorial in Kitty Hawk, N.C., to the Air Force Memorial in Arlington.

The Air Force Heritage Memorial to Memorial (M2M) Bicycle Ride continues to pick up speed—both on the road and in its impact. On Sept. 18, 2025, hundreds of Airmen, Guardians, Soldiers, Sailors, Marines, and civilians gathered at the Wright Brothers Memorial in Kitty Hawk, N.C., to begin their four-day, 350-mile journey to the Air Force Memorial in Arlington, Va.

This year's ride marked another milestone in the event's steady growth. A record 270 riders took part, up from 202 in 2024, and together they soared past their fundraising goal of $64,000, raising a total of $73,000 for AFA's Wounded Airmen & Guardians Program. In keeping with the tradition of doubling the target each year, the riders are aiming to raise $110,000 in 2026, and hope to overachieve for the fourth consecutive year.

The M2M ride was founded by former Air Force Chief of Staff Gen. David L. Goldfein, USAF (Ret.), and Brig. Gen. Robert "Surf" Beletic, USAF (Ret.), with a vision to celebrate Air Force heritage, promote fitness and recruiting, and support wounded Airmen and Guardians. Staying true to that vision, both Goldfein and Beletic continue to ride alongside participants each year, embodying the teamwork and commitment at the heart of the event.

Growth has been largely organic. Many first-time participants joined after hearing stories from friends, colleagues, or fellow Airmen and Guardians who rode previously. While everyone shares a common goal of supporting wounded Airmen and Guardians, the motivations behind each set of handlebars are personal and varied. Some ride to honor loved ones. Others see it as a challenge to push their physical limits. Still others simply enjoy it as an opportunity to reconnect with the Department of the Air Force family after retirement.

This year, AFA sponsored six participants through the Wounded Airmen & Guardians Program. Returning riders Nikki Favuzza (a cancer survivor) and Chris Jachimiec (who has struggled with PTSD) welcomed four fellow medically retired service members who joined M2M for the first time: Peter Cui, Jason DeMoss, Thomas Honeywell, and Tania Miranda Banks.

"We have hand cyclists [and] amputees coming from different branches of service, all able to share their story and work through finding that purpose again," said Senior Master Sgt. Joshua Johnson, the M2M Deputy Director. "They miss the camaraderie of serving. This is part of their healing journey. And for us, it's rewarding to even hear their story on how we can support each other and make sure that we don't forget the things that they've sacrificed for our nation."

Across the four days, riders experienced a powerful mix of camaraderie, perseverance, and joy. The peloton was even joined by Air Force Chief of Staff Gen. David Allvin and the Chief Master Sergeant of the Space Force John Bentivegna at different points of the ride, both of whom gave inspiring remarks along the journey.

Even after long stretches on the road, tired faces gave way to determined smiles at each rest stop. Fellow cyclists offered encouragement, spectators cheered from the sidelines, and strangers became teammates over shared miles.

"You have other riders riding with you, it makes those miles go a little bit easier than doing anything alone," said Favuzza. "I think that's what I love most about cycling."

"You really get to know who your wingmen and who your teammates are," said Jachimiec. "You take your time pulling, you take your time supporting one another. It ties into the Airman's Creed: 'I will never leave an Airman behind, I will never falter and

Senior Airman Olivia Bithell

Chief Master Sgt. of the Space Force John Bentivegna gives opening remarks before the final day of the ride to encourage and inspire all.

Courtesy

At the finish line, bikers at the end of the race pose for a photo at the Air Force Memorial. A snapshot of a day filled with camaraderie, commitment, and community.

Eric Dietrich

A cyclist celebrates at the finish of the Memorial to Memorial Ride.

I will not fail.'"

The presence of these resilient riders enlightened the purpose of the ride for all 270 cyclists. Along the route, the Wounded Warriors shared their stories of resilience and service, inspiring fellow riders to dig deep through challenging stretches and reminding everyone why each mile matters.

As the peloton approached the Air Force Memorial for the final leg, the atmosphere was one of triumph—not just for the miles conquered or dollars raised, but for the community fueled along the way.

As first-time rider Thomas Honeywell put it, "This experience shows that persistence and community support can take you farther than you ever imagined."

US Postal Service Statement of Ownership, Management, and Circulation

1. Publication Title: Air & Space Forces Magazine
2. Publication Number: 2834-8206
3. Filing Date: Oct. 1, 2025
4. Issue Frequency: Monthly, double issues—January/February; March/April; May/June; July/August; September/October; and November/December
5. No. of Issues Published Annually: 6
6. Annual Subscription Price: $50.00
7. Complete Mailing Address of Known Office of Publication (not printer): 1201 S. Joyce St., C6, Arlington, VA 22202-2067. Contact Person: Eric Chang Lee. Telephone: 703-247-5849
8. Complete Mailing Address of Headquarters or General Business Office of Publisher (not printer): 1201 S. Joyce St., C6, Arlington, VA 22202-2067
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor: Publisher: Burt Field, 1201 S. Joyce St., C6, Arlington, VA 22202-2067; Editor: Tobias Naegele, 1201 S. Joyce St., C6, Arlington, VA 22202-2067; Managing Editor: Chequita Wood, 1201 S. Joyce St., C6, Arlington, VA 22202-2067
10. Owner: Air & Space Forces Association, 1201 S. Joyce St., C6, Arlington, VA 22202-2067
11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities: None
12. Tax Status (For completion by nonprofit organizations authorized to mail at nonprofit rates): Has not changed during preceding 12 months
13. Publication Title: Air & Space Forces Magazine
14. Issue Date for Circulation Data Below: Sept. 1, 2025.
15. Extent and Nature of Circulation

Monthly Journal of the Air & Space Forces Association	Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (net press run)	50,820	51,600
b. Paid Circulation (by mail and outside the mail)		
(1) Mailed outside-county paid subscriptions stated on PS Form 3541 (include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	41,785	45,247
(2) Mailed in-county paid subscriptions stated on PS Form 3541 (include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	0	0
(3) Paid distribution outside the mails including sales through dealers and carriers, street vendors, counter sales, and other paid distribution outside USPS	370	366
(4) Paid distribution by other classes of mail through the USPS (e.g., first-class mail)	0	0
c. Total Paid Distribution [sum of 15b (1), (2), (3), (4)]	42,155	45,613
d. Free or Nominal Rate Distribution (by mail and outside the mail)		
(1) Free or nominal rate outside-county copies included on PS Form 3541	0	0
(2) Free or nominal rate in-county copies included on PS Form 3541	0	0
(3) Free or nominal rate copies mailed at other classes through the USPS (e.g., first-class mail)	0	0
(4) Free or nominal rate distribution outside the mail (carriers or other means)	54	54
e. Total Free or Nominal Rate Distribution [sum of 15d (1), (2), (3), (4)]	54	54
f. Total Distribution [sum of 15c and 15e]	42,209	45,667
g. Copies Not Distributed	8,611	5,933
h. Total [sum of 15f and g]	50,820	51,600
i. Percent Paid [15c / 15f x 100]	99.79%	99.79%
16. Electronic Copy Circulation		
a. Paid electronic copies	37,835	38,226
b. Total paid print copies (15c) + paid electronic copies (16a)	79,990	83,839
c. Total print distribution (15f) + paid electronic copies (16a)	80,044	83,893
d. Percent paid (both print & electronic copies) (16b / 16c x 100)	99.93%	99.94%

17. Publication of Statement of Ownership

If the publication is a general publication, publication of this statement is required. Will be printed in the November/December 2024 issue of this publication.

18. Signature and Title of Editor, Publisher, Business Manager, or Owner: Eric Chang Lee (signed), Production Manager. Date: Oct. 1, 2025

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

By Col. Phillip S. Meilinger, USAF (Ret.)

Edward G. Lansdale

Early Influencer.

Ed Lansdale was one unusual Airman. Not a flyer, he joined the Army in World War II and became an intelligence officer. He worked for the storied OSS—Office of Strategic Services—and, essentially, became a spy. In 1947, Lansdale transferred to the Air Force and would become a major general while concurrently serving as a high-ranking CIA officer.

Upon entering the Air Force, Lansdale was dumped into the education field—teaching new intelligence agents. He wrangled a change and took an assignment that would change his life and have a major impact on Asian affairs.

Lieutenant Colonel Lansdale arrived in the Philippines in September 1950 to study its ongoing insurrection. The "Huks" were communists bent on overthrowing the democratic government and were a serious threat. For the next five years, Lansdale would study the insurgency, its leaders, and methods and would also turn a perceptive eye on the Philippine government itself.

He realized the Huks had legitimate grievances. The Manila government was corrupt; the elections were rigged; the leaders were leeches; taxes were high; and justice was unequal. Change was essential if the Huks were to be defeated. An exception to this dismal picture was the defense minister, Ramon Magsaysay. Lansdale knew he was scrupulously honest, a dedicated patriot, and committed to reform. Because of this, Magsaysay was viewed as a threat by many—on both sides. After an assassination attempt, Lansdale insisted that Magsaysay and his family move into his own quarters in the protected U.S. military compound. There, the two would stay up late and discuss the country's problems and what could be done to solve them.

Although the Huks were a serious threat, there were other concerns. The army was untrained and undisciplined. Money earmarked for equipment, housing, and rations was pocketed by bent commanders. Most importantly, the people were oppressed as the Huks claimed. The military took advantage of the people they were ostensibly there to protect.

Magsaysay began unannounced visits to military outposts all over the island. He would breeze in with Lansdale in tow, inspect, fire a commander or two, harangue the men regarding the values of democracy and the rule of law, and then get back in his jeep and depart. Word soon spread.

Late-night talks produced new tactics and ideas such as psychological warfare and "civil action"—the concerted effort by the military and government agencies to travel the countryside, talk to the people, hear their complaints, and do positive things such as help with farming and build bridges, schools, and hospitals. Appeals were made to the Huks to lay down their arms, acquire land, and become productive citizens. Over time the population realized that Magsaysay was sincerely interested in the fate of their country, and defections increased dramatically.

In 1955 the reforms of the Magsaysay/Lansdale team culminated and the Huks were defeated. Magsaysay then ran for president and won by a landslide. Lansdale was self-effacing about these years, claiming he was nothing more than a catalyst to bring people and good ideas together. Magsaysay thought he was far more than that.

His job finished, Lansdale returned to Washington, but was soon sent back to Asia, this time to Vietnam. Now a colonel, Lansdale hoped to replicate his success in the Philippines, but South Vietnam was a different country with different people and different problems. Lansdale did become good friends with President Ngo Dinh Diem, who like Magsaysay, learned to trust and value the American's advice.

USAF History and Museums Program

Brig. Gen. Edward Lansdale was best known for his psychological warfare tactics and counterinsurgency methods during the 1950s and '60s.

This connection would prove insufficient. Ideas and programs that had worked in the Philippines did not translate in Vietnam. Partly, it was the rampant corruption at all levels, but it was deeper than that. Although Lansdale saw Diem as a sincere and honest patriot, he had not the charisma to dominate people and events as could Magsaysay. Worse, American advisers in South Vietnam, mostly Soldiers, saw little use in the ideas of an Airman who preached a new type of war requiring innovative tactics and programs. They thought Lansdale naïve and ignored him. The war would be fought by conventional Soldiers using massive firepower.

Lansdale retired as a major general in 1963 but continued with the CIA for another eight years, part of that time back in Vietnam. It is tempting to speculate on what could have happened had he been heeded. The dominant voices, in Washington and Vietnam, spoke instead of military action, consisting of big forces and search and destroy missions. That did not work. It is unfortunate that Lansdale's success in the Philippines has not been studied more closely. A communist insurgency was decisively defeated. That story needs to be remembered.

*Lansdale wrote his memoirs after retirement, "**In the Midst of Wars**" (Harper & Row, 1972), but focused almost exclusively on his years in the Philippines. A more complete, interesting, and satisfying biography is that of Cecil B. Curry, "**Edward Lansdale, The Unquiet American**" (Houghton Mifflin, 1989).*

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