



When you're out of money, you have to think.

INNOVATION IN

USAF photo by Liz Copan

AIR FORCE resources are so thinly spread that only a campaign of innovation at every level will get the service through the challenging years ahead, said service, industry, and Pentagon leaders at AFA's Air, Space & Cyber Conference, held in September at National Harbor, Md.

One of the keys to continuing to provide more mission with fewer assets is to ask the right questions. These are about capabilities—not necessarily the platforms that provide those capabilities, Marine Corps Gen. Joseph F. Dunford Jr., Chairman of the Joint Chiefs of Staff, said in his keynote address.

The question is not “how do we buy more Predators?” but “how do we make decisions and get the information we need?” said Dunford.

Air Force Chief of Staff Gen. David L. Goldfein observed that if the need is for a particular kind of intelligence, “I don't care” what platform delivers it. By not defining the answers, he said, airmen will be free to deliver the solutions to capacity problems in ways leaders didn't expect.

Dunford warned that anticipated budgets won't provide enough money to buy the expanded capability that ris-

ing demands on the Air Force require. Innovation and streamlined acquisition practices will have to become the norm. “The path we're on won't get us there,” he said.

The conference was held a week before the end of Fiscal 2016, just before Congress passed a continuing resolution rather than a full-up defense authorization bill, and Air Force Secretary Deborah Lee James detailed the many hits the USAF budget will take as a consequence. These mainly affect new starts and programs about to go to higher production rates, such as the F-35 fighter and KC-46 tanker.

CORRECTING THE BALANCE

James said, though, that as much as the Air Force must keep up with modernization, she's put a priority on increasing the number of people in the service, correcting an imbalance she acknowledged she played a role in creating.

The “historic downsizing” of the last 20 years has resulted in the smallest Air Force ever, James said, explaining that while the personnel cuts “made sense on paper” they have severely hurt readiness, especially at a time of steadily increasing operations tempo. In a press conference, she said she

would make personnel a higher priority than the F-35, KC-46, and B-21, the three modernization programs she has held up as existential to USAF's future.

The service also finds itself in a “battle for talent,” characterized by James as a competition for “recruiting and retaining the best.” To be more competitive, she said the Air Force will renew its efforts to achieve greater diversity and tap the full talent pool. James promised to soon roll out a “second diversity and inclusion initiative” to reach USAF manpower goals.

Another area of innovation will have to be in professional military education.

“I don't fear budget constraints,” allowed Lt. Gen. Steven L. Kwast, commander and president of Air University at Maxwell AFB, Ala. “If we're clever enough problem-solvers, \$6 billion should be enough” to train the force to modern standards. He also called out diversity as a crucial element in delivering relevant training.

At Air University, he said, civilians, foreign exchange students, and cross-service personnel train together with airmen, who make up only 48 percent of students. This variety of perspectives will help airmen avoid building “a blind spot that brings you down.”



USAF photo by TSgt. Joshua Strano

Photo by Brittany Palmer

THEIR BLOOD

By Wilson Brissett, Senior Editor



Photo by Brittany Palmer

Far left: Cadets at Field Day at the Air Force Academy in Colorado Springs, Colo., in 2015. Left: Air Force Chief of Staff Gen. David Goldfein speaks at AFA's Air, Space & Cyber Conference. Above: The combined air operations center at al Udeid AB, Qatar. The CAOC provides command and control for air operations over Iraq, Syria, Afghanistan, and other nations in the Middle East. Above right: Marine Corps Gen. Joseph Dunford Jr., Chairman of the Joint Chiefs of Staff, delivers a keynote address at AFA's conference in September.

Kwast said innovation and economizing go hand in hand. It's about "taking a \$10 problem, solving it for 10 cents, and making your enemy solve it for \$100." Following this mind-set, he said, will help the Air Force leave behind "the industrial age of education" because it's "not suited to a complex world."

Following on this thought, Goldfein said it's time to "move into the information age of warfare." He'll take solutions from anywhere, he said, and will start by listening carefully to all ideas, especially when "we don't have money and manpower to throw at the situation."

Goldfein said he is looking at revitalizing the squadron as the heart of the Air Force organizational chart, and he encouraged his commanders to cultivate new ideas from the bottom of the chain of command.

The accelerating pace of technological advance requires intense innovation in acquisition and development technology, too. Joint chiefs vice chairman Gen. Paul J. Selva said that means seeking innovation in places where the defense enterprise has not usually looked before. Though the armed services pioneered technologies in the past, now it is commercial industry leading the way,

and government leaders must entice nontraditional vendors to participate in national defense. The Pentagon will have to emulate and embrace the high-risk, high-reward mind-set of technology start-ups, he said.

RISKING EARLY FAILURE

The defense acquisition environment is where "start-ups don't find themselves comfortable," Selva said, given the risk-averse mind-set of the defense enterprise. These companies are on the cutting edge, but either don't know about defense work or are leery of doing business with DOD, which tends to be overly prescriptive on how to develop new systems.

"Reinventing ourselves around the kinds of technologies that make us successful," Selva went on, requires a willingness to "risk failure early" in the process. Risk aversion has hampered development of a next generation of remotely piloted aircraft that could operate in the anti-access, area-denial environments being created by China and Russia, he said.

To meet these challenges, USAF must evolve, taking on "more risk to speed up acquisitions," said Kenneth

S. Callicutt, director of capability and resource integration at US Strategic Command. The same is true for the development of autonomous vertical lift systems, where the military has shown "too much conservatism," according to Patrick Donnelly, program director, rotary wing, at Boeing Phantom Works.

In a niche where "it's a risk for industry to invest," Donnelly continued, "we need a quicker acquisitions cycle" to meet the current technical challenges and to make sure companies are rewarded financially for their investment.

The difficulty in attracting new talent—both individuals and companies—might be generational. "Would you expect to see a millennial at the opera?" asked Gen. Ellen M. Pawlikowski, commander of Air Force Materiel Command. "We have to reach out to the forums they go to, which may put some of us out of our comfort zone."

Others aren't convinced the gap is so wide. In the area of space programs, the Air Force already has a "strong cultural tradition of innovation," insisted Winston A. Beauchamp, deputy undersecretary of the Air Force for space.

Goldfein agreed. In addressing the fundamental challenge of developing a command and control system capable of competing in the "networked approach to the warfare of the future," the Air Force doesn't need to start from scratch, he said. Instead, he pointed to his own experience in the combined air operations center, where a multinational team has coordinated intelligence, surveillance, and reconnaissance for global counterterrorism operations since 2003.

The CAOC is a space where innovation meets modernization, Goldfein said, and creative problem-solving meets complex challenges on a tight budget.

"Innovation is in our blood," Goldfein asserted, saying he is sure airmen will deliver needed capability if leadership gets out of their way and lets them do it. ✪