Short on funds, the Air Force must plan for the future while meeting today’s wartime needs.

The Air Force needs to be prepared for any possibility. To meet that daunting task, it is taking multiple, large-scale steps to determine what its future requirements will actually be and take care to ensure these overlapping plans can move forward to reality, top service officials said at AFA’s Air, Space & Cyber Conference at National Harbor, Md., in September.

“History would suggest that may be China, Russia, Iran, North Korea, violent extremism, [but] we don’t have that exactly right.”

To prepare for the future, Goldfein is directing in-depth, long-term looks at key areas he says the service must revitalize and refocus on. The Air Force can’t simply throw money at these issues, because the service just does not have it.

It is not just strategic planning, however—the Air Force’s often geriatric equipment needs a refresh to remain relevant against current and future enemies. Air Combat Command and Air Mobility Command are looking to move beyond conventional thinking to get an idea of what is essential for key airframes of the future in a time of strict budgets and intense combat requirements.

“Balancing this fleet with current demand, reduced capacity of aircraft and personnel, and technological advances among our adversaries make maintaining Air Force full-spectrum readiness a challenge,” Air Force Secretary Deborah...
Lee James said at the conference, “But we are taking the necessary steps to ensure the Air Force’s dominance for another generation.”

THREE STUDIES

Goldfein’s first major initiative as the service’s Chief is to begin a look at three key areas he says will define airpower in the future. A series of studies will take the entirety of his tenure at the top of the Air Force.

Goldfein used his inaugural high-profile public speech as Chief of Staff of the Air Force at ASC to announce the three studies. They will investigate how to revitalize squadrons across the service; strengthen the role of Air Force leaders in the joint community; and improve multidomain command and control for the future.

“If we focus on these, we’ll be ready for [whatever comes] next,” Goldfein said. “And this is one thing I know with absolute 100 percent clarity. We have from right now until then to get ready. And it will take all of us, airmen, industry, allies, joint partners—all of us working together to present to combatant commanders, to our Secretary of Defense, and our Com-

Gen. David Goldfein, USAF Chief of Staff, speaks at AFA’s Air, Space & Cyber Conference about the state of the force.
“This is where we step back and ask ourselves the fundamental question: What does a 21st century squadron need to look like?” Goldfein said. “I think it looks different. I think there may be a civilian-military mix to it.” In addition to more civilian involvement, Goldfein said the Air Force needs to follow the work of his predecessor, Gen. Mark A. Welsh III, and incorporate even more of the Air National Guard and Reserve into the squadron mix.

Brig. Gen. Brian M. Killough, director of strategy, concepts, and assessments, will direct the study of strengthening joint leadership in the Air Force. This includes how airmen, both enlisted and officer, are developed and how they can work more with other services.

Goldfein said he will strengthen the joint preparedness of wing and numbered Air Force-level commands, so they can be ready to lead task forces. There must be a strong air focus in the planning of campaigns to “ensure that we are actually looking at the business of combined arms” and ensure that all components, especially air, are optimized. To do so, USAF should produce leaders truly conversant in joint operations, who know how to work with other services.

“Well means we strengthen the path that we go on to be able to build joint leaders who are able to have that airman’s voice in the dialogue, especially at the level of campaign design,” Goldfein said. “So that in campaigns of the future, they are truly joint in nature and all of those cultures are in play to get to the best possible solution.”

Brig. Gen. B. Chance Saltzman, director of future operations, is to look at how to develop networked systems and next generation, multidomain command and control, to prepare the Air Force for what comes next in the “information age of warfare,” Goldfein said. The service brings in massive swaths of intelligence, surveillance, and reconnaissance data and that information must be “fused” in a way to enable combatants to make decisions immediately and stay ahead of possible adversaries.

The service will have to develop common mission systems, common data, and common architecture that can be analyzed using artificial intelligence and machine-to-machine data to understand and make decisions immediately.

The Air Force’s command and control infrastructure must “be the connective tissue for the joint force as we go forward,” Goldfein said. “Some would say we’re already there, and I agree. But there are still so many of our processes that are in the industrial age. And for our industry partners, this is a partnership that we have to work together because it starts fundamentally changing the way we think about procurement.”

The new way of thinking starts with a common mission system, and then thinking about how platforms and sensors can fit into that system, he said.

To address this future command and control environment, Air Combat Command is going to look at future procurement and operations, as it recently did with its fighter force. Earlier this year, the command published an Enterprise Capability Collaboration Team project report on the future of combat air, called Air Superiority 2030. In it, ACC experts discussed what the next generation of air superiority could be—beyond the Air Force’s newest fifth generation fighters such as the F-22 and F-35. This included increased networking between aircraft and looking at stealth less as a singular component, such as low observable, and more as a combination of approaches.

ACC is directing a year-long ECCT project on command and control, because being able to rapidly put resources where they’re most needed can help multiply capacity, Air Combat Command chief Gen. Herbert J. “Hawk” Carlisle said at ASC.

The study comes as the Air Force is beginning recapitalization of its E-8 Joint Surveillance Target Attack Radar System fleet. A draft request for proposals to in-
In the meantime, the Air Force is standing up new MQ-9 Reaper operating locations and doubling its classes for operators so future demands can come closer to being met, James said.

The problem long-term isn’t simply having to buy more aircraft, Dunford said. Instead, the military’s leadership must have enough information to set reasonable requirements and make appropriate resourcing and tasking decisions.

“We need to make sure we’re pursuing the right objective,” Dunford said. “I hope that’s music to the ears of airmen, because we’ve gone to the Air Force over and over again to increase capacity.”

Critical Air Force modernization programs to address capability shortfalls are multilayered and in various stages of maturity. MQ-9 Reaper ISR and strike capabilities are well-established. The fifth generation F-35 fighter has just reached initial operational capability; it is officially ready to go to war. And the KC-46 Pegasus program is still in the process of getting off the ground.

For Air Mobility Command, the focus on what’s next should begin before its newest aircraft—the Boeing KC-46A Pegasus—even becomes operational.

AMC may recast its 15-year-old strategy of replacing the KC-135 Stratotanker and KC-10 Extender with a three-phase program dubbed KC-X, KC-Y, and KC-Z. Gen. Carlton D. Everhart II, AMC commander, said a new approach is needed. The Pegasus—which won the KC-X contest—will likely be the KC-Y, he told reporters, albeit with some new technologies and equipment to let it get closer to heavily-defended airspace. He still has a requirement to buy 479 tankers, but the KC-46A program only provides 179 new aircraft.

The Pegasus is larger and more capable than the KC-135, but he needs new tails as quickly as possible, and skipping the second contest might bring new aircraft online faster, he said.

Everhart asserted that all too soon, perhaps as early as the mid-2030s, something even more advanced will be needed to deliver fuel to the forward battle areas, and possibly beyond. The KC-Z, he said, might be smaller, possibly unmanned, and capable of penetrating an anti-access, area-denial environment. The time is now to begin assessing that requirement, he said.

AMC is conducting studies on this future right now and is working with industry on the possibilities. For the first time in years, AMC hosted an industry day at Scott AFB, Ill., to do this outreach.

“We are engaging with industry to find out from them, ... ‘What are you thinking about?’” Everhart said.

Meanwhile, AMC’s strategic airlifters require upgrades and modernization, though they have a lot of life left. The newest airlifter, the C-17 Globemaster III, is receiving upgrades, such as a new head-up display, new oxygen-generating systems, and bigger fuel tanks to keep the fleet fresh. AMC has also studied options for how to best base the aircraft to extend its life—such as rotating C-17s from certain regions that contribute to aircraft corrosion to drier regions where that does not happen. Moves like this could mean the C-17 could theoretically last up to 80 years, Everhart said.

The notion of military aircraft flying for 80 years sounds, on the surface, absurd. But that may well be reality, as proved by USAF’s longstanding plans for the B-52. The current fleet of eight-engine bombers has been continuously upgraded, but today’s aircraft were purchased in the early 1960s and are expected to fly into the 2040s, when they will be eight decades old.

Secretary James at the conference dropped the biggest “bomb,” figuratively. Alongside the sole remaining Doolittle Raider, retired Lt. Col. Richard E. Cole, James announced the service’s secretive new long-range strike bomber had a name: the B-21 Raider.

The Air Force has maintained for years that it needs to buy 80 to 100 of these aircraft to recapitalize its fleet, but shortly after the name was announced the head of Air Force Global Strike Command said 100 B-21s is probably the minimum acceptable number.

AFGSC head Gen. Robin Rand said he must move on from heavy reliance on ancient bombers like those venerable B-52s. The Air Force’s bomber fleet is already stretched thin because of B-1s and B-52s rotating through operational commitments in US Central Command and the continuous presence in US Pacific Command, while the BUFFs and stealthy B-2 bombers also have nonstop US Strategic Command nuclear requirements.

The command is studying the number of bombers it will need in the 2030-50 time frame. “We won’t set the official number” for a while, Rand said, but “I can’t imagine we would have one less bomber.”