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would not have been won. A World War I-type armistice would once again have postponed settlement of the conflicts of the period, leaving the totalitarian regimes in control of many important areas and of the future security of many places in the world.

It is important that our population today understand the magnitude of the effort and the dedication of our citizenry required to win World War II, and to recognize the society and the culture that drove the effort and political and economic systems that made it possible. A nation little more than a third of today’s size produced a colossus that sustained us through an American golden age, the remainder of the 20th century.

There are threats in today’s world that should remind us of Abraham Lincoln’s warning about a “house divided” and Ronald Reagan’s observation that “freedom is never more than one generation away from extinction” as we contemplate our needs to cope with those threats.

Gen. Frederick J. Kroesen, U.S. Army retired, served as vice chief of staff of the U.S. Army and commander in chief of U.S. Army Europe. He is a senior fellow of the Association of the U.S. Army’s Institute of Land Warfare.

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**Act Now to Advance Air and Missile Defense**

By Thomas Karako

Acting Defense Secretary Patrick M. Shanahan has warned that the U.S. has come to take military superiority for granted, as a kind of birthright. Perhaps no aspect of military superiority has been taken for granted in the post-Cold War period more than air superiority.

With the return of great-power competition and the renewed need to defend forces from aerial attack, that must change. In the October 2017 announcement of the Army’s six-part modernization strategy, Chief of Staff Gen. Mark A. Milley introduced long-range fires and other efforts to improve lethality. He added, “None of this is going to matter if you’re dead. And that’s why you need air defense.”

In March, the Army released a strategy for the future of air and missile defense in a new era of strategic competition, the first such update since 2012. The vision of “Army Air and Missile Defense 2028” is of a flexible, agile, and integrated [air and missile defense] force capable of executing multi-domain operations and defending the homeland, regional joint and coalition forces, and critical assets in support of unified land operations.” The framework is nested with the National Defense Strategy, the Missile Defense Review, the Army Strategy and recent Joint Staff publications on countering air and missile threats.

Consistent with the threat and the new strategic context, the air and missile defense strategy advocates improvements relating to capability, capacity, training and force readiness, the maintenance of forward presence, and the building of partner capacity. Advancement in each of these areas will require significant programmatic, operational and organizational changes.

**Complex Threat**

The joint force now faces a more complex and contested aerial operating environment than ever. Extending from mud to space, the spectrum of threats arriving in and through the air domain includes ballistic missiles, cruise missiles, unmanned aerial vehicles, fixed- and rotary-wing manned aircraft, rockets, artillery and mortars.

Contrary to popular opinion, the defining characteristic of this threat spectrum is not, however, from some new silver bullet like hypersonic glide vehicles, nor from high-volume salvo attacks, but rather from operational concepts by which threats can be imaginatively mixed and matched with lethal effect, both with themselves and by nonkinetic means. “The most stressing threat,” the strategy notes, “is a complex, integrated attack incorporating multiple threat capabilities in a well-coordinated and synchronized attack.”

This strategy is not shy about naming Russia and China as the reason air and missile defense has become one of the Army’s top priorities. Emphasizing the specter of complex and integrated attack from a major power is no speculative exercise. In Ukraine, for instance, Russia has used a lethal combination of cruise missiles, artillery and unmanned aerial vehicles. Even North Korea and Iran are employing UAVs to support ballistic missile and surveillance operations.

The strategy document does not mince words about the prospect that the joint force could be surprised by relatively less sophisticated means. Near- and midterm capability gaps include defenses against lower-tier air threats, insufficient survivability in today’s Avenger air defense units, and the inability to use less mobile active defenses to protect the maneuver force. Meeting these gaps required prioritization and some tough choices. In the case of Maneuver Short Range Air Defense (M-SHORAD), for instance, the Army traded magazine depth for mobility, in the hope that rapid movement will complicate an enemy’s surveillance and targeting.

**Integration at All Levels**

The historical approach to diverse air and missile defense missions has been solutions devised in a stovepiped fashion. “Army Air and Missile Defense 2028” begins to break this mold, pointing to the need for improved integration, passive defense, multimission approaches, and a reinvigorated approach toward tiered and layered defenses.

The first aspect of breaking past stovepiping is with improved interoperability and system integration. Near-term pri-
orities include interoperability between Terminal High Altitude Area Defense and Patriot batteries, and continued work toward integrated fire control with the Integrated Air and Missile Defense Battle Command System (IBCS) program. “Army Air and Missile Defense 2028” also confirms the goal of evolving IBCS to support not merely the targeting of defensive fires but offensive fires as well. The document is, however, remarkably candid that the enemy will try to “dis-integrate” joint and combined air and missile defense forces, so graceful degradation of fire control networks will be required.

Passive Defense

In the face of numerous, complex and integrated attacks, there will never be enough interceptor capacity to simply sit and play catch. The finite character of active defenses forces greater reliance upon passive defense, more lethal attack operations, and integration and interoperability with allies and partners. “Army Air and Missile Defense 2028” deserves credit for highlighting the need for passive defense, not merely for the defense asset but also to better secure active air and missile defense forces from enemy suppression. Attention to emissions control, camouflage nets, or the simple lit cigarette at night has been relatively less urgent in an age of air superiority and adversaries with relatively primitive precision strike and battlefield surveillance. On the high-end battlefield, passive defense assumes considerable importance, as the “first to fire” units may well be the first to be fired upon. In an environment where major powers have robust aerial surveillance, deception and dispersal become mandatory.

Layering

Another key organizational action of “Army Air and Missile Defense 2028” is movement to making tiered and layered defenses more of a reality through creation of composite units. This more dynamic approach to air and missile defense organization is long overdue. Planned combinations include Terminal High Altitude Area Defense with Patriot, Patriot with Indirect Fire Protection Capability (IFPC) and IFPC with M-SHORAD. A unit like Terminal High Altitude Area Defense is designed only for ballistic missile defense; mixing and matching with other units is necessary to avoid suppression from asymmetric attack. Instead of having IFPC and M-SHORAD units in separate battalions, each capability would be included under one battalion commander. The Russians, for their part, rarely deploy S-300 or S-400 hardware without an accompanying SHORAD unit like Pantsyr to protect it.

But tiered and layered defenses have their limits. M-SHORAD and IFPC are distinct. The latter will not be sufficiently mobile, opening up a potential vulnerability to cruise missile attack on the maneuver combat force. Since M-SHORAD will be the primary means to defend the maneuver force, its capabilities will probably need to improve. Given budget constraints on the development of new launchers and effectors, the potential of sharing effectors between IFPC and M-SHORAD may be an important area for the Army to explore.

The air and missile defense mix-and-match philosophy may extend further to include all Army fires. Consistent with the Joint Staff’s doctrinal development of integrated air and missile defense, the new strategy also shows interest in integrating offensive and defensive fires “at all echelons.” “Army Air and Missile Defense 2028” points in this direction by reaffirming the purpose of integrated air and missile defense to support both offensive and defensive fires, but the principle could be pursued further. Near-term blending could include deploying more organic air defense capabilities within offensive fire units, perhaps starting with man portable air defense systems. Taking this approach to its logical conclusion could extend down to mixed offense-defense batteries, and even both offense-defense fires within the same launcher, as seen in the Navy’s Mark 41 Vertical Launching System.

Improved Training

Training and new operational concepts will also be necessary to implement the new strategy. One important concept endorsed here is of combined arms for air defense. Especially in light of the capability capacity shortfalls for maneuver forces, some of this gap may be met by improved training and awareness that the U.S. cannot assume air superiority. Nondedicated
guns or other effectors could be used to shoot down aerial threats. A similar culture change is beginning to take hold in the Missile Defense Agency with the integration of the F-35 sensor suite into the Ballistic Missile Defense System.

Capability
While cognizant of the need for capability improvements, “Army Air and Missile Defense 2028” is remarkably cautious about calling for major sensor or interceptor follow-on programs. While emphasizing the importance of the new Patriot radar, the Lower Tier Air and Missile Defense Sensor (LTAMDS), there is no discussion of plans to further improve Terminal High Altitude Area Defense or Patriot interceptors, the TPY-2 radar, or even new effectors for IFPC and M-SHORAD. Although not mentioned in the new strategy, the Army’s 2020 budget request includes $8 million for future interceptor development.

By contrast, “Army Air and Missile Defense 2028” clearly emphasizes the necessity of directed energy capability. By 2028, M-SHORAD Stryker-based units are projected to have a mix of missile and 50-kilowatt lasers, with a higher ratio of directed energy units by 2034. A 100-kW laser is planned for the Future Combat Vehicle, which will be part of IFPC. Given limited magazine capacity of kinetic interceptors and the prospect of swarm and salvo attacks, realizing the desired air and missile defense force of 2028 is said to be “dependent” upon directed energy.

One question unanswered by the document is whether the forthcoming Patriot radar will be capable of seeing threats from every direction. Despite adversaries’ possession of “high-volume, high-precision missiles capable of 360-degree avenues of approach to our [air and missile defense] systems and the critical assets they protect,” Army leadership has reportedly walked back LTAMDS’ omnidirectional requirement.

Risks and Assumptions
Another aspect of the new strategy is its upfront statement of assumed preconditions, the absence of which would “delay or negate” the realization of the desired air and missile defense capabilities by 2028. Explicit assumptions include relatively constant force allocation, predictable and sustained funding, adequate strategic lift and forcible entry capabilities in the joint force, and the realization of research and development goals—including new directed energy and advanced sensors. A further warning is that excessive operational tempo—a regular problem with the Patriot force, for instance—could have adverse effects on air and missile defense progress. The inclusion of these risks and warnings puts senior Army, joint and civilian leadership on notice that the desired end state for 2028 must not be taken for granted. The Army is the principal air and missile defense provider for the joint force, so if the end state is not achieved, the effects will be felt broadly.

Adapting to Strategic Competition
“Army Air and Missile Defense 2028” represents a much needed adaptation of Army efforts to the new reality of strategic competition with great powers, and a welcome contribution to the broader air and missile defense conversation.

Whereas strategy documents can frequently resemble lists of aspirations and extend to hundreds of pages, this concise, 22-page statement contains a refreshing bluntness about the threat, capability tradeoffs, assumptions and risks. No less bluntness and urgency would do.

All such documents have limitations, and this one does not attempt to identify a variety of follow-on interceptor or system modernization efforts. Some more recent decisions like purchasing Iron Dome as an interim cruise missile defense system are also not included. To ensure its ongoing utility, “Army Air and Missile Defense 2028” is intended to be a living document. Its recommendation of incremental revisions should be taken up as a key point of its implementation.

Thomas Karako is a senior fellow in the International Security Program and director of the Missile Defense Project, both at the Center for Strategic and International Studies, a think tank based in Washington, D.C.

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A Junior Leader’s Take on Military Life

By Capt. Derrick M. Davis

When someone leaves home for the first time at the age of 17 or 18 to join the military, they never foresee what they are about to face. After 23 years and traveling around the world, I have seen it all. I want to highlight the three most important aspects of military life through a junior leader’s lens: leadership, diversity and family involvement.

Leadership
If we want to dominate our adversaries and ensure our military is the strongest in the world, we must continue to maintain the smartest and most agile leaders.

Leadership is defined as influencing others by providing direction, motivation and purpose. When I look back on my 23 years of service, I can say without a doubt that I have seen many forms of leadership. The supervisor (giver), egotistic leader (user) and motivator are just some of the types of leaders we have in our ranks.

The supervisor is always there, in front of and behind the scenes of their organization. They spend 23 hours daily to ensure everyone around them is successful. They are smart and willing to sacrifice time with their family in order to see others move up that ladder of success. They spend the majority of their time planning and creating training and programs to benefit their units. These leaders know they will progress in the military based on their hard work and not because they know prominent leaders.

Egotistic leaders make it through the ranks because they know how to work the system and shine only when higher leadership is watching. They have only their own best interest at heart. If you are a liability in their eyes, they will abandon you as a soldier. A great leader seeks knowledge and assists everyone who needs their mentorship and guidance.

The motivator is one who enters a unit to bring excitement and fun and is always trying to please everyone. They try so hard