As the drawdown in Afghanistan accelerates and the footholds of democracy go deeper in Iraq, the U.S. Army must reset and re-equip while facing a dramatic reduction in resources. Yet a backdrop of persistent conflict covers the world from Syria to Somalia. Clearly, our soldiers and squads will be called on again; they must be equipped to be decisive whether engaged in combat or community building.

The United States does not intend to withdraw from the world or shirk its responsibilities. The U.S. Army may get smaller, but it must remain world-class. The new defense strategy defined the future challenge: “This country is at a strategic turning point after a decade of war and, therefore, we are shaping a Joint Force for the future that will be smaller and leaner, but will be agile, flexible, ready, and technologically advanced. It will have cutting edge capabilities, exploiting our technological, joint, and networked advantage.”

Many lessons were learned this past decade on how to bring forward new technology from the defense and non-defense industrial base to rapidly equip the force. These lessons must not be lost. History shows that dramatic post-conflict drawdowns leave us unprepared for future missions. This time, Pentagon planners must keep the soldier at the top of the priority list when making program choices. Soldiers will continue to be our most effective weapons system.

As the Army comes together in October for the AUSA Annual Meeting and Exposition, uniformed leaders should take time to focus on the equipment and technologies that could improve soldier and squad capabilities. The coming drawdown demands a deep dialogue with industry to create an investment plan for continued progress in areas such as lightweight materials for protection; solutions to replace and improve batteries with lighter, renewable and mobile power sources; feeding systems that increase soldier nutrition with more nutrient-dense foods delivered to forward operators in mission-compatible, lighter-weight packaging; creating system-of-systems approaches to integrating the soldiers’ “kit”; improved methods of acquisition that move beyond a commodity mind-set; and smart ways to rationalize and focus the disparate research and development (R&D) programs across the services and science and technology agencies to maximize innovation per dollar invested.

The Lessons of 10 Years of Combat

Ten years of continuous conflict have produced dramatic changes in the way the military organizes, trains and equips. For example, the Army reorganized itself into a modular force with brigade combat teams arranged in task forces tailored to specific missions and created eight centers of excellence to provide training in areas such as ma-

By Daniel Goure
large volumes of specialized gear. Innovative contracting approaches were instituted to improve delivery, such as employing prime vendors to manage supply chains producing complex clothing and equipment ensembles.

Soldiers, sailors, airmen and marines are the U.S. military’s most important and frequently deployed asset. Providing them with the best equipment should remain a well-funded priority. Investment in the items carried by the soldier and squad will enable the future force to operate in any environment with greater agility, power and flexibility than the adversary. Several areas to focus on include protection, power, nutrition and future strategy.

**Protection and Prevention**

The wars in Iraq and Afghanistan increased threats in an environment that demanded more protection and more mobility. Innovation for soldier protection has been largely incremental—nips and tucks to the body armor, slight reductions in material usage, and additions of features such as quick release sum up much of the progress. Beyond these improvements, there has been insufficient progress reducing body armor weight. Today, operational commanders find themselves decreasing weight by decreasing protection levels. As the force resets and re-equip, it is time to critically examine all aspects of armor research, development and procurement.

The warfighter of 2020 will require an increase in protection without an increase in weight for a full spectrum of threats, from conventional fragmentation and small arms to light fragmentation and blast impact as well as thermal, flame and chemical/biological hazards. Future protective equipment must be tailored to mission needs and threat profiles. It must be modular and scalable and work together with the other equipment as a system that the combatant carries.
More effective than protective equipment for survivability is being able to prevent and evade exposure to threats. The warfighter of the future must be able to identify threats in time to avoid them unless mitigated through other means. Increasing access to and unifying networks as well as advancing optics and sensors will keep the future force from unnecessary contact.

**Power and Energy**

Beyond better body armor, reducing power and energy resupply needs will also protect soldiers by lightening their load and limiting their exposure. Creating more renewable sources of power at squad and soldier levels will decrease the need for fuel convoys; this will remain a priority for the future force. Like lighter armor, making lighter batteries pushes the boundaries of physics and chemistry. Substantial cross-discipline basic research is required for the promise of step-change nano and other materials to be realized. Progress is being made, however: The new Soldier Worn Integrated Power Equipment System and the Expeditionary Soldier Power Suite are two examples.

**Food and Nutrition**

While fuel efficiency and new longer-lasting, lighter power sources are critical for the squad and individual equipment, what actually fuels the soldier is food. One need only check the menu for today’s Meals Ready to Eat (MREs) to see how far we’ve come since the days when MRE meant “meals rejected by everyone.” The Combat Feeding Directorate at the U.S. Army Research, Development and Engineering Command continues to collaborate with the food industry on new and better rations. To meet the needs of the future force, the theme of more with less applies here as well. In this case, what is required is more nutrient-dense food more efficiently delivered with less and lighter packaging that can withstand harsh environments. Every ounce taken from every item a soldier carries is the only way to materially lighten the load.

**Shaping a Strategy for the Future**

Joint Vision 2020: America’s Military: Preparing for Tomorrow states, “If our Armed Forces are to be faster, more lethal, and more precise in 2020 than they are today, we must continue to invest in and develop new military capabilities.”

Protection, power and food are three of the many soldier equipment categories meriting investment focus. Maintaining progress in individual equipment during declining defense budgets will require a renewed commitment and increased efficiencies. As the defense budget shrinks, there is a tendency to focus on major systems with powerful industry and political constituencies. The individual equipment industrial base—consisting largely of small business—may be ignored and left to decline as it was after Operation Desert Storm. Doing so, however, would lead to an irreversible loss of manufacturing and R&D capabilities.

To meet the needs of soldiers and squads in 2020, a systems approach should be employed. Protection, power, food, network communications and lethality among other concerns must be approached holistically and jointly among the services, especially at the basic and applied research levels. New materials are necessary to achieve real breakthroughs, and this requires substantial investments only possible by sharing resources and risks across the services and between public and private entities. New and reformed acquisition practices are still required to facilitate industry reinvestment and competition.

With commands like Program Executive Office Soldier leading the way, tremendous progress has been made in increasing soldiers’ capabilities with improvements to their equipment. Much has been learned in acquisition agencies and on industry production lines. U.S. workers are proud to produce for U.S. warfighters. Continued collaboration and investment will secure these gains for the future force.

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