

## Innovations and Solutions: The Future is Not What It Used to Be

After 17 years of focus on the lower end of the combat spectrum, U.S. national strategy has turned to great power competition. The challenge is that the U.S. is effectively starting from behind as other competitors did not take a time out during Iraq, Afghanistan, or the Global War on Terrorism. To the contrary, they used the strategic pause to develop their own technologies and organizational constructs. And there are other things to consider. Consequently, we now have every domain being contested and the U.S. is playing catch up on land, at sea, in the air, space and along the electromagnetic spectrum.

Technology is changing the character of war at historically unprecedented speed and direction. This technological revolution ranges from the exquisite, such as artificial intelligence, quantum computing, autonomy, and weapons in space, to the mundane: a cell phone is a secure, accessible and inexpensive C5ISR system.

As a global power with global commitments, the U.S. must protect its interests, its homeland and allies. To this end, it must be able to project superior power, deter aggression, and if necessary, fight and win against any combination of enemies. The U.S. no longer has any control over the when, how and where conflict begins. Therefore, the Joint Force and the entire underpinning national security complex must be lethal, resilient, agile, adaptable, ready, effective and efficient. The key to all of this is innovation in technology and concepts, openness to fresh ideas, and the ability to anticipate, define and implement solutions...well ahead of the adversary.

### Protecting

To most Americans, the homeland became vulnerable on September 11, 2001. In truth, the U.S. ceased to be a sanctuary, protected by oceans and compliant neighbors, on October 4, 1957 when the U.S.S.R. launched *Sputnik* into orbit, ushering in the space age and exposing the homeland to nuclear attack. While both vulnerabilities remain, the need to protect has become more complex. It now extends to infrastructure, weapons systems, the supply chain, industrial base, and intellectual property that has been subject to theft and global dissemination. The U.S. must also protect treaty allies and friends whose security depends on America's strength, credibility and resolve. Deterrence is the mathematical product of capability and will. Credibility is its bedrock. Without it, deterrence fails, the fight isn't on your terms, and the costs will be greater in blood and treasure.

### Projecting

The U.S. projects power globally, intentionally, both to keep the fight away from the homeland and to reassure allies and deter adversaries. Presence means having ready forces stationed forward – interoperable and experienced in fighting alongside allies – underpinned by a robust network of diplomatic cooperation, trade, and intellectual exchange networks. More precisely, the only thing that counts is the number of combat ready forces, strategically positioned, and rapidly deployable.

U.S. adversaries – Russia, China, as well as North Korea and Iran – understand well the importance of forward presence. Indeed, all invested heavily in making America's ability to deploy forward difficult and costly by deploying robust anti access/area denial (A2/AD) systems. China, in particular, has extended its sphere of influence by building and fortifying a series of man-made islands in the South China Sea. Likewise, Russia has deployed missiles, air defense

and anti-ship systems along its maritime approaches—from Kaliningrad to the Black Sea. Iran is threatening to make access to both the Persian Gulf and the Red Sea difficult and bloody. North Korea threatens to drown its southern neighbor—an American treaty ally, where 28,000 U.S. troops and their families are stationed—in a “sea of fire” from its massed artillery, missiles and WMDs. Today North Korean weapons are well within the range of nearby allies like Japan and even U.S. territories, such as Guam and Hawaii.

America’s adversaries are also aware that the U.S projects not only military and economic power, but its values, ideas, and moral compass. Almost by definition, they perceive this as a threat and an obstacle to their effort to re-shape the world order that America built.

### Planning/Programing

The American national security establishment is just beginning to come to grips with the reality that the entire strategic constellation has fundamentally shifted. That shift is not limited to technology, though it surely is an enabler. The entire character of war is changing. Absent strategic, doctrinal, and organizational change, the mere introduction of technological innovations is both insufficient and, potentially, counterproductive. The risk is that, absent innovation in ideas and constructs, new technology is bound to be used in old ways. As Machiavelli warned over five centuries ago, “nothing is more difficult to plan, more doubtful of success, nor more dangerous to manage than a new system. For the initiator has the enmity of all who would profit by the preservation of the old institution and merely lukewarm defenders in those who gain by the new ones.”

The U.S. has made great strides in incubating new technologies; it must do no less for new ideas. Without deliberate generation and cultivation, new approaches are sure to wither on the vine. Should that be allowed to happen, technological innovation will be little more than a costly set of experiments producing a batch of shiny new toys. For example, in May 1940 France had more planes and tanks than Germany, but succumbed in six weeks. France was simply overwhelmed by the lethal combination of concepts and technologies known as the Blitzkrieg. And this serious lesson is never to be forgotten.

### Promoting

Doing things differently starts with a new perspective. Change is never linear nor easily predictable. To thrive in this transformed environment, the ability to anticipate and adapt is more critical than ever. Likewise, leaders must recognize, foster, and promote innovative thinkers, while removing bureaucratic and administrative obstacles to progress and barriers to new and different views. As former CJCS ADM Michael Mullen pointed out, “Good ideas have no rank.” Past experience is not necessarily the key to future success. Indeed, just the opposite may be the case. None of America’s leaders today have fought a peer adversary and it’s not known how many are fully ready for the crucible of a contested, lethal, high-intensity war.

To prevail, the U.S. must also learn how - with great skill - to anticipate and analyze trends, as well as study alternative futures, realizing that these are never comprised of technology advances alone. Otherwise, the U.S. is bound to be surprised by an adversary who masters the lethal combination of new technologies, new ideas, new operational concepts, and new delivery mechanisms.