



Initiative for A Renewed Transatlantic Partnership

August 2005

The report below has been endorsed by former U.S. Secretary of Defense Harold Brown and former NATO Secretary General Lord George Robertson, cochairs of the CSIS Initiative for a Renewed Transatlantic Partnership. Written by Guy Ben-Ari, a Fellow with the Defense Industrial Initiatives Group at CSIS, this paper describes the transatlantic gap in thinking about network-based operations and recommends that NATO and the European Union play a role in closing it in order to ensure that future coalition operations are undertaken in a networked manner.

European Commitment To Network-Based Operations and the Transatlantic Doctrine Gap*

Guy Ben-Ari

The international security environment has changed dramatically over the past decade and a half. The United States and Europe both require transformed military forces to address current and future threats, forces that are truly mobile and capable of undertaking a wide range of combat and noncombat operations almost anywhere in the world. One element of creating forces that possess these qualities is to provide them with advanced technologies for gathering intelligence, communicating it, and acting on it with speed and precision. The specific technologies deployed depend on the military doctrine adopted by each country, which in turn is a product of the ways each country expects to use its military forces.

Fortunately, the implementation of military doctrines for expeditionary warfare can be based on technologies that are readily available, affordable, and, most importantly, possess the potential to interconnect not only units within the same military, but also those of different nationalities. Unfortunately, the rate of adoption of these strategies on the two sides of the Atlantic has been uneven. This has had real implications on the ability of coalition forces to operate side by side effectively, and has led to numerous proclamations on the existence of “technology” and “capability” gaps between Europe and the United States. The real gap, however, is one of doctrines on the use of networked systems in military operations. This gap can—and must—be closed.

American Leadership in Thinking about Network-based Operations

With the end of the Cold War, the way in which the United States thought strategically about the use of military forces began to change. The focus shifted from engaging the Warsaw Pact en masse in the European theater to a wider range of global security challenges, such as failed states, terrorism and the proliferation of weapons of mass destruction, and to regions such as the Middle East, the Persian Gulf, North Asia, and the Pacific. Dealing with future threats, according to the new reasoning, would require a different kind of military: one that is more flexible, capable of rapid deployment to far-flung locations, and knit together by advanced

* This report is based on a monograph entitled “Bridging the Gap: European C4ISR Capabilities and Transatlantic Interoperability,” by Gordon Adams, Guy Ben-Ari, John Logsdon and Ray Williamson, published in October 2004 by the Center for Technology and National Security Policy at the National Defense University.

command, control, communications, computer, intelligence, reconnaissance, and surveillance systems, collectively known as C4ISR. These systems would create networked forces that are mobile, swift, potent, and less vulnerable to enemy attack and that can utilize integrated data from a plethora of sensors to launch weapons with pinpoint accuracy from platforms beyond the enemy's range.

Since the early 1990s, the United States has led the way in this rethinking of military missions and capabilities by formulating and implementing the doctrine of network-centric warfare (NCW). Creating the network that is at the core of this doctrine became possible due to a technological revolution that had been 25 years in the making; innovations in information, communications and sensor technologies made it possible to imagine, develop, and deploy revolutionary changes in military strategy, operations, and capabilities. Despite shrinking defense budgets, the U.S. military began what it termed “transformation”—pushing toward NCW as a combination of innovative tactics and technologies that a force employs to create a decisive war-fighting advantage by linking C4ISR systems and weapons systems in an interconnected grid. U.S. forces have demonstrated this increasingly networked, global, and dominant capability in the first Gulf War, in the Balkans, and most recently, in combat operations in Afghanistan and Iraq.

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European countries, on the other hand, were not initially as swift to build comparable capabilities. As the threat of conflict with a major military adversary disappeared, defense strategies remained focused on Europe's immediate borders, and the need for transformed forces fielding technologies that contribute to a networked capability was not envisioned. As European defense budgets shrank throughout the 1990s, legacy systems and maintaining of the force structure continued to consume the majority of investments.

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Europe Begins To Catch Up...

Participation in the Gulf War and in campaigns in the Balkans was a major catalyst for change in European thinking about defense capabilities. During Operations Desert Shield and Desert Storm, coalition forces witnessed, for the first time, the implementation of the new U.S. way of war fighting (many on the U.S. side were witnessing it for the first time, too). Military systems such as the Pioneer Unmanned Aerial Vehicle (UAV) and the Joint Surveillance and Target Attack Radar System (JSTARS)—the latter still under development when first deployed—proved the value of utilizing advanced sensors onboard manned and unmanned platforms that provide real-time intelligence to commanders on the ground via a state-of-the-art command, control, and communications network. During operations in Bosnia-Herzegovina and Kosovo, the more advanced Predator UAVs were deployed for the first time; gigabytes of high-resolution space imagery were delivered in support of operations; and the “sensor-to-shooter” loop—the time between identification of a target and its destruction—was reduced from hours to minutes. The disparities in deployed capabilities between the U.S. and European forces struck home to the European allies and stimulated a stronger commitment to acquiring transformed national capacities.

Much progress has been made in Europe over the past decade. Many nations, most notably the United Kingdom, France, Germany, Spain, Italy, the Netherlands and Sweden, are researching, developing, procuring, and deploying significant transformational capabilities, and the trend is accelerating. Many countries are investing in and deploying unified digital communications infrastructures, cross-service command and control systems, and various types of ISR platforms—manned, unmanned and space-based—and are able to rely on the European defense industrial base to provide them. Planned and actual deployments are broader and further advanced in some countries while they lag in others, yet there is no denying the overall trend towards acquiring modern

systems for network-based operations. At the NATO and European Union (EU) levels, too, programs have been initiated to expedite the use of C4ISR assets in existing and future forces. Within NATO, the European allies signed up to the Defense Capabilities Initiatives (DCI) in 1999 and to the Prague Capabilities Commitments (PCC) in 2002. NATO C4ISR programs, including SATCOM V, Alliance Ground Surveillance (AGS), and Air Command and Control System (ACCS) are underway. Efforts are also ongoing under the auspices of the EU, including the commitment to create expeditionary battlegroups and the command, control and communications study undertaken jointly by the European Defense Agency and the EU Military Staff.

...But Much Remains To Be Done

Only a handful of European allies, however, have formulated doctrines for networked operations based on their understanding of the uses of technology in warfare and of the campaigns they see their militaries involved

in over the next few decades. Those that did have shied away from the terms “centric” and “warfare,” reflecting their different views on the importance of C4ISR technologies and on the uses of military force. No European country is planning to create a fully networked force built around a unified command, control, and communications infrastructure, and few are willing to place these technologies at the heart of war-fighting capabilities to the extent that the United States does. Furthermore, Europeans envision a much broader range of operations for their militaries than those implied by the word “warfare”; hence, the use of different terms to address planned capabilities, such as network-enabled capabilities (NEC) in the United Kingdom, networked-operational command (*Vernetzte Operationsführung* or NetOpFü) in Germany, and network-based defense in Sweden and Finland. NATO has chosen a similar designation, NATO network-enabled capabilities (NNEC), for its doctrine.

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The Current Transatlantic “Doctrine Gap”

For the European military planners of today, the limits to transformation are not dictated by insufficient access to technologies and systems; local and multinational suppliers are available and more than adequate. Nor is it a matter of scarce funds for investments; setting aside the fact that defense spending simply will not rise in most national European budgets, C4ISR systems are more affordable than most legacy ones and, being force multipliers, provide a bigger “bang for the euro.” Rather, it is the lack of a long-term strategy regarding the use of force in national foreign and defense policy contingencies that makes it problematical for European governments to put in place programs for the modernization and transformation of their militaries. Since, as Clausewitz noted, war is an extension of politics by other means, defense capabilities follow from national defense policies, and well-defined, long-term defense policies are exactly what most European nations do not possess. As a result, there is a lack of commitment in most European capitals to network-oriented doctrines as the basis for transforming militaries. In addition, there is a shortage of longer-term visions regarding the role that supranational organizations, such as NATO and the EU, will play in future conflicts.

This transatlantic “doctrine gap” will have to be bridged if future network-based operations are to be undertaken within a coalition framework. Acknowledging that this is not a technological issue is the first crucial step; C4ISR technologies and expertise of comparable quality exist within companies and national forces on both sides of the Atlantic. Several joint U.S.-European programs have proven that these technologies can be linked. A NATO-led advanced concept technology demonstrator has proven that sharing data between various national airborne ground surveillance capabilities is possible; a six-nation Multinational Interoperability Council program has enabled the sharing of classified information using a combined wide area network; and the codevelopment of the

Multifunctional Information Distribution System (MIDS) has resulted in an encrypted, jam-resistant tactical data communications network. Later this year, two other advanced concept technology demonstrators will be linked to demonstrate how data from various national collection systems can be posted on a common military Web site and made available for coalition operations in near real time, down to the brigade and platoon levels. These programs demonstrate that interoperability—with all of its operational advantages—can be achieved without requiring individual countries to relinquish certain military capabilities or parts of their industrial base.

Bridging the Gap

Interoperability, however, is only possible when countries possess the systems to “plug and play.” Therefore, the first priority for European defense planners must be to develop doctrines that will guide the restructuring of their militaries into more expeditionary ones based on networked systems. Only then will shifting defense euros from legacy systems, such as main battle tanks and armored personnel carriers, into network-based systems such as airborne ground surveillance and space assets, be undertaken in an efficient manner. France, for example, develops and procures a wide range of state-of-the-art C4ISR assets, but does so without a clearly formulated doctrine for expeditionary, network-based operations. Many other European defense ministries also fail to appreciate the urgency of updating their strategies.

If undertaken in a coordinated manner by both NATO and the EU, national migration towards network-based doctrines and capabilities can be achieved more swiftly and efficiently as well as at lower cost.

Ideally, the preparation of national network-based doctrines would be done under the auspices of the two multi-lateral defense entities in Europe: NATO and the EU. Both organizations have formulated broad defense strategies that dictate when and how the military forces made available to them can be deployed. Both have designated specific branches to integrate doctrines for network-based operations into their respective strategies: NATO through its Command, Control and Consultation Agency; the EU through the European Defense Agency’s Capabilities Directorate. From these offices, mechanisms can emerge for providing nations with assistance in the formulation of national doctrines and in the acquisition of the systems required to implement these doctrines. If undertaken in a coordinated manner by both NATO and the EU (and it is noteworthy that two of the European leaders in network-based operations—Sweden and Finland—are EU member states but not members of NATO), national migration towards network-based doctrines and capabilities can be achieved more swiftly and efficiently as well as at lower cost by avoiding redundancies, sharing the workload where possible, and pooling resources. No less important is the fact that NATO and EU oversight of the move to new doctrines will ensure that the goal of intra-European and transatlantic interoperability remains steadily within the sights of national planners.

There are clear, persuasive reasons for making investments in networked capabilities and transatlantic interoperability a high priority. The era of static, large, armored forces, in place to confront and deter the adversary’s massed formations, is over. The era of forces that train and exercise together, but are rarely used, is over as well. Both Europeans and Americans must understand that investing in modern C4ISR capabilities, and focusing on their interoperability, will be crucial if smaller, more networked forces are to be used effectively in future coalition operations—both combat and post-combat—outside the NATO treaty area. As such out-of-area coalition operations become more global and include European allies, connectivity of systems will become more and more critical. Achieving it requires sustained planning and investment on both sides of the Atlantic, a willingness to link systems well in advance of any particular deployment, and artful use of the opportunities available in NATO and the EU to achieve this goal.

Guy Ben-Ari is a Fellow with the Defense Industrial Initiatives Group at the Center for Strategic and International Studies in Washington, DC.