BECAUSE NATO IS FACING increased security threats from a multitude of sources, interoperability among our NATO Allies, and particularly with our non-NATO Partner Nations, has never been more important. However, that begs the question: What is interoperability? If you ask 10 different people, you will likely get 10 different answers based on the individual perspectives. In 2006, NATO defined the term in “interoperability in joint operations” as “the ability of different military organisations to conduct joint operations. These organisations can be of different nationalities or different armed services (ground, naval and air forces) or both. Interoperability allows forces, units or systems to operate together. It requires them to share common doctrine and procedures, each other’s infrastructure and bases, and to be able to communicate with each other. It reduces duplication (…), allows pooling of resources, and even produces synergies among members.”

For communicators around the world, defining interoperability is not easy and, more often than not, we are faced with the challenge of fitting the round peg into a square hole. Most frustrating is that the solutions to the “round-peg-and-a-square-hole” problem are often technologically easy and straightforward. The difficult task involved with achieving military interoperability is understanding the implementation of a multitude of national policies, procedures, and restrictions designed over years to protect national systems that simply “shut the door” on interoperability.

Interoperability is not a single problem with a single solution. The United States Army Europe (USAREUR) and our European Allies and Partners are facing various national policies and technical communication challenges that affect our collaboration and information sharing (that is, interoperability) across all levels of command. The challenges of interoperability are quite different as one moves down from the strategic through the operational and to the tactical level of military command.

For the past several decades, interoperability stopped at the division or the corps level of command and no further below that. Many current NATO systems are designed to share information at this command level. Given enough time to train and integrate these systems, national formations at the division and corps command levels can pass meaningful mission command information. In today’s complex European theater, however, NATO is mixing national units down to the platoon and company command levels.

On paper, it is possible to tuck an American battalion under a French brigade or a German platoon under an American company, but ensuring their nationally fielded communications systems directly interoperate is an extreme challenge. One would think a “radio is just a radio” and a “computer is just a computer,” so making the various parts communicate should be straightforward. Quite often, it is, at least technically. However, even among units from NATO nations, which use common design-standards, NATO-compliant military radios may not be widely distributed within the military unit.

When we set aside the relatively easy-to-solve radio-hardware issue, the real challenge to low-level tactical radio interoperability is in the Communications Security (COMSEC) processes used to secure voice communications. Can a German platoon talk to an American company? This has less to do with technical interoperability and everything to do with restrictions imposed by national policies and procedures. Nations have spent many years and enormous amounts of money to secure their military communications, which in turn impedes our now required interoperability.

Within NATO, common COMSEC protocols exist. However, according to national procedures, those shared COMSEC protocols must be distributed by means of nationally owned processes. Because of these nationally imposed restrictions, an American company cannot issue COMSEC protocols to a German platoon to share secure tactical voice communications. The German platoon must obtain the identical COMSEC protocol from its German national sources. This often leads to delays in securing tactical-voice communications, and those delays may cost soldiers’ lives during major combat operations.
Moving up from the tactical to the operational level of command, recent technological advances have enabled the U.S. forces and our Allies to make great strides in national mission command systems. Unfortunately, these efforts have not been well coordinated between nations, resulting in a wide variety of solutions that are unable to interoperate with one another. One of the tenets of mission command and a prerequisite for true multinational interoperability is a meaningful Common Operational Picture (COP) that can be shared among Allied and Partner Forces. The term “common” in COP currently refers to a common or shared perspective within any one nation’s military force, but not necessarily across national lines.

USAREUR operates in a joint, combined, and multinational environment throughout 51 countries across Europe and Eurasia and participates in more than 20 major NATO and non-NATO exercises each year. The procedures and mechanics of sharing a COP at the division or corps level are well understood and practiced with the intent that each nation would distribute the shared COP by means of national assets to their own lower levels of command. This process can work well in major combat operations with nationally pure divisions, but the COP process breaks down for a formation multinationally mixed at lower levels.

Furthermore, as with radios, nationally fielded friendly-force tracking systems work well with a national-pure formation, but they do not work well in multinationally mixed formations. An American company using the U.S. "Blue Force Tracking" system and a German platoon with a German force-tracking system have no way to share positional data with one another at this level. A higher-level command post may be able to see both nation’s units on their single COP system (assuming nations are releasing their national feeds to a COP), but units at the tactical level still have to rely on old-fashioned techniques to maintain positional awareness and, most importantly, avoid friendly-fire while rapidly targeting the enemy.

Moving beyond COP and friendly-force tracking are a number of tasks that armies around the world perform before and during major combat operations. These tasks are the bread and butter of land forces and include functions such as integrating fires, intelligence processing, logistical functions, and medical-evacuation procedures. These tasks require years of training to master and are graduate-level work for the interoperability of multinationally mixed formations. Passing an artillery-fire mission from a Polish headquarters to a French artillery battery not only has to traverse language and procedural hurdles, but the information has to pass through computer-based systems. These systems, in theory, were designed to meet NATO standards, but they work with each other without a tremendous effort. The ability to pass information cannot be assumed simply because all of the players are NATO members. Units in multinationally mixed formations require time to train and integrate their systems before leaders can expect satisfactory performance during combat operations.

The title of this article is “Harmonizing Interoperability.” According to Merriam-Webster, to harmonize is: "to cause two or more things to be combined or to go together in a pleasing or effective way." According to the USAREUR's "Strong Europe" strategy, "Working with our Allies and Partner Nations is the normal way to operate in Europe, and contributes to strengthening our Alliance as part of the NATO Collective Defense."

Based on this definition and this strategy, harmonizing interoperability is a prerequisite for the challenges USAREUR faces today. Similar to how harmony is works in music; true multinational military interoperability brings together many different people, policies, and technologies together to form a synergy that a military commander can use to make better life-and-death decisions during major combat operations.

Recent world events and USAREUR contributions and support to the NATO Very High Readiness Joint Task Force (VJTF) highlight the urgency of USAREUR’s requirement to expedite the delivery of capabilities that enhance our ability to support our Allies and Partners, participate in multilateral engagements, and operate as part of a joint multinational force. Interoperability is one of those capabilities. Support for these capabilities is essential, not only to the framework of the USAREUR "Strong Europe" strategy, but to the success of our overarching U.S. Army Doctrinal Operating concept, which is to "Win in a Complex World."