

Research Brief

Interoperability of Coalition Air Forces: Lessons Learned from U.S. Operations with NATO Allies

In recent years, the United States has partnered with North Atlantic Treaty Organization (NATO) allies in a large number of air operations, ranging from humanitarian relief and peacekeeping missions to major theater war. Interoperability—the ability of military forces from different countries to work effectively together—poses an ongoing challenge. Differences in objectives, strategy, and doctrine, incompatible communications, diverse planning and execution systems, and dissimilar weapon systems all can slow operations and can threaten to limit effectiveness. In the past, NATO allies have addressed interoperability problems by developing short-term and usually incomplete solutions on an *ad hoc* basis. A long-term approach is needed to prevent the most common interoperability problems from occurring in the future.

RAND Project AIR FORCE (PAF) studied recent coalition air operations in Southwest Asia, the Balkans, and Africa to derive lessons for improving NATO interoperability.

- ***Interoperability problems may occur at all levels of warfare—strategic, operational, tactical, and technological.*** Military planners tend to think of interoperability as a technical and tactical concern. However, interoperability may also be affected by disagreement over the political objectives of a military operation, such as whether to pursue total destruction of an adversary or some agreed-upon level of damage to his forces. Problems at one level can affect interoperability at other levels. For example, the absence of secure communication among allies can increase the risk of aircraft attrition. This problem can exacerbate political differences over the number of acceptable casualties.
- ***Allies must recognize and address the fundamental sources of interoperability problems.*** In cases where political motives are misaligned, no amount of technological improvement will mitigate the problem. For example, in Somalia, disagreement between allies over the purpose of the mission led to a chain of command that proved incapable of preventing or mitigating the consequences of a downed helicopter. Consensus at the strategic and operational levels will make tactical and technical problems less likely and easier to resolve when they arise.
- ***Successful operations require flexible organizational structures, doctrines, and procedures.*** NATO allies often face uncertainty about what missions will be needed, which countries will participate, and what types of forces each country will contribute. Potential disruptions in interoperability can be mitigated through a unified command structure to coordinate the roles of various countries. Standing organizations devoted to planning, training, and exercising coalition forces can provide continuity between operations. These elements should be lubricated by the ready availability of liaison officers to overcome cultural and linguistic barriers and to facilitate information flow between allies.

These case studies have supported PAF work to improve U.S.-NATO interoperability in the areas of command, control, communications, intelligence, surveillance, and reconnaissance.

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