
International Armaments Cooperation: A Key to Coalition Interoperability

By

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What is International Armaments Cooperation?

The Deputy Under Secretary of the Air Force/International Affairs (SAF/IA) has a number of programs for building relationships with friendly and allied air forces around the world. Sales of weapon systems and training via foreign military sales (FMS) help achieve commonality in equipment, support and usage. Personnel Exchange Programs foster people-to-people relationships that play a critical confidence building and familiarity role in future coalition efforts. The primary role of International Armaments Cooperation (IAC) is to promote rationalization, standardization and interoperability of Air Force defense equipment and capabilities and allies to ensure coalition success. In contrast to FMS, where the other nation is a customer paying for authorized products and services, IAC views the other nation as a partner. A “Quid pro Quo” approach is the fundamental feature of IAC in which both the U.S. and the partner nations share both risks and rewards in collaborative ventures. Our primary customers in IAC efforts are the operational, technical and acquisition communities of the USAF.

International armaments cooperation is an acknowledged component of the Department of Defense’s (DoD’s) acquisition strategy. DoD Directive (DoDD) 5000.1 and DoD Instruction (DoDI) 5000.2 govern the DoD systems acquisition process. Collectively, the DoD 5000 series guidance specifies the overarching principles, policy, conditions and procedures for program approval and progress through the milestones of the defense acquisition management framework. Specific requirements regarding various international considerations, including IAC, are also contained in the DoD 5000 series. DoDD 5000.1 policy states the Program Managers shall pursue IAC to the maximum extent feasible, consistent with sound business practice and with overall political, economic, technological and national security goals of the U.S. DoDD 5000.1 mandates that interoperability shall apply within and among U.S. forces and U.S. coalition partners. To this end, DoDD 5000.1 states that a cooperative development program with one or more allied nations is preferred to a new joint service or service-unique development program.

The majority of IAC activities are cooperative research and development (R&D) and acquisition projects and programs. IAC primarily consists of:

- Exchanges of technical information, scientists and engineers.
- R&D, test and evaluation (T&E), of defense technologies, subsystems, and systems or equipment.
- Cooperative production of defense articles or equipment resulting from a cooperative R&D program.
- Procurement and testing of foreign equipment, under the Foreign Comparative Testing Program, to determine its ability to satisfy USAF requirements.

Armaments Cooperation in SAF/IA

The Armaments Cooperation Division (SAF/IAPQ) engages foreign partners in R&D and acquisition planning, on a bilateral or multilateral basis, in equitably sharing resources and technology for the purpose of meeting common needs. Such IAC activities are realized through IAPQ advocacy and support. IAC is formally documented in international agreements - the development, negotiation, and conclusion of these agreements are delegated to the Air Force (and specifically to SAF/IA by SECAF) by the Department of Defense, see *Air Force Instruction 16-110*. The full range of the division’s activities and responsibilities include:

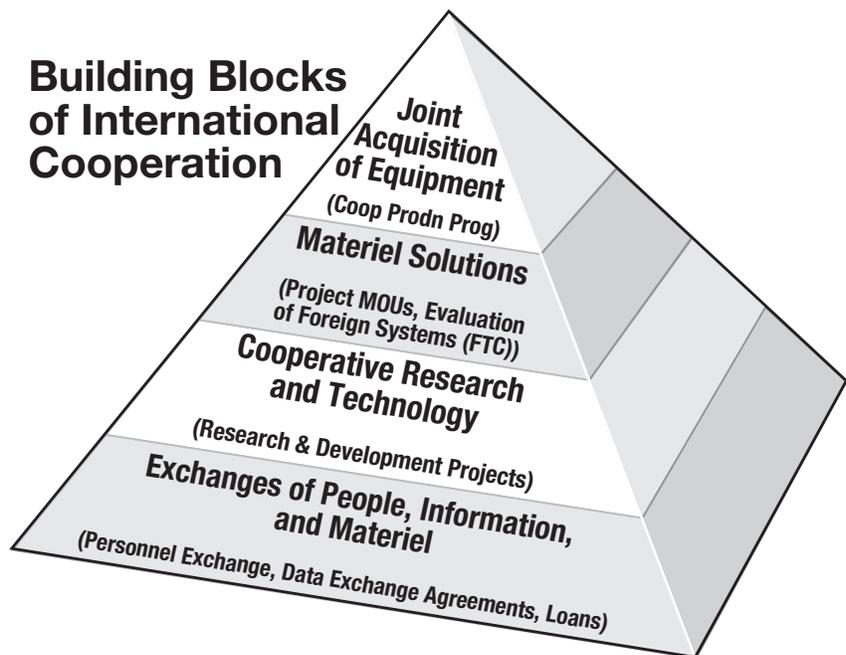
- Issuing Air Force (AF) guidance and coordinating AF policy positions in IAC;
- Negotiating and establishing international agreements;
- Guiding AF participation in international fora;
- Identifying new international opportunities and common needs with foreign representatives;
- Identifying and capitalizing on foreign niche technologies to benefit USAF;
- Promoting commonality, standardization and interoperability with allies and friendly nations;
- Leading and facilitating assessment missions, and determining foreign potential and capability for new programs;
- Interacting with foreign representatives to improve cross-national awareness of programs and procedures;
- Budgeting and administering funds to support international programs, outreach and personnel exchanges; and
- Establishing and executing USAF IAC priorities and engagement strategy.

These responsibilities enable IAPQ to capture value for the USAF through the delivery of foreign niche technologies of benefit to the war fighter, while also assisting allied and friendly foreign nations with defense investment decisions to strengthen their security partnerships with the U.S.

Armaments Cooperation in Action

It can be useful to view IAC relationships as a pyramid. A complementary, mature relationship reflects the breadth of programs across all of the “building blocks” of cooperation, from basic science and technology through developmental programs. At the most basic level of cooperation, there are exchanges of people, information and materiel; broad and wide-reaching exchanges set the foundation of a relationship and allow identification of areas of commonality. As we move up the pyramid, the number of agreements becomes fewer and yet more specific. The complexity increases significantly at the top of the pyramid where cooperative efforts ultimately lead to the joint acquisition of equipment.

A summary look at the IAC portfolio provides a characterization of SAF/IA’s efforts in IAC. At the end of 2004, the Air Force had nearly 500 IAC agreements with our international partners. More than one-third of the agreements were multilateral, involving the North Atlantic Treaty Organization (NATO) members and other allies. Of the bilateral agreements, the largest portfolios were represented by allies with significant defense industrial and research bases, such as the United Kingdom (U.K.), Australia, Canada, Germany and Israel. Nearly three-fourths of the IAC agreements are focused on cooperative research and development (R&D), hence the Air Force Research Laboratory is our largest



single customer. We are currently increasing our efforts to expand IAC in the Pacific by establishing a liaison office in Australia and pursuing proposed cooperation with Singapore and Taiwan.

Some of the specific cooperative defense initiatives SAF/IA is pursuing include the development of unmanned vehicles; development of interoperable tactical and intelligence networks for the sharing of time critical targeting information; and many technology sharing and information exchange agreements for critical elements of future combat capability. The U.S. and its closest allies are partners in the development of advanced space systems and also work closely in the development and production of advanced combat aircraft such as the Joint Strike Fighter (JSF), the next generation manned combat aircraft. JSF is a premiere example of a “cooperative production program” where the U.S. is collaborating multilaterally with eight other international partners in pursuit of enhanced allied interoperability, a critical component of development. All of this is being conducted with a focus on affordability, reducing the development cost, production cost, and cost of ownership of the JSF family of aircraft.

Fielded weapon systems can also benefit from IAC. A case in point is the C-130J. The C-130J is the latest addition to the C-130 fleet, bringing state-of-the-art technology to the tactical cargo-



transport and troop-transport aircraft that has been in the Air Force inventory since 1954. The USAF has made extensive use of the C-130J in Operations Enduring Freedom and Iraqi Freedom. Australia, Denmark, Italy and the U.K. have purchased 63 C-130Js through direct commercial sales (DCS) and have signed a cooperative Memorandum of Understanding (MOU) with the USAF. The MOU enables the nations to cooperate and share funding of studies, technology insertion, design,

development, production, modification and follow-on support. The MOU allows the USAF to capitalize on \$31 million from four international partners. To date, two projects have been initiated under the MOU. The first project deals with cooperative software and systems upgrades, while the second project provides technical data analysis and testing to enable national certification officials to authorize C-130J operations in reduced vertical separation minimum airspace. With the prospect of long-term efforts in the Global War on Terrorism, we need to ensure that our coalition partners operating the C-130J have as much commonality and interoperability with us as possible.

In addition to cooperative research and development, SAF/IA can access foreign technology and capabilities through the DoD’s Foreign Comparative Testing (FCT) Program. The intent of the FCT Program is to test and evaluate foreign non-developmental defense equipment to determine whether such equipment can satisfy valid USAF requirements. From bullets to aircraft loading equipment to nanotechnology, the FCT program provides funding for test articles and the testing and evaluation of foreign equipment. With a two year test to procure goal, the FCT program saves time, money and effort versus the lengthy traditional acquisition cycle. Through the FCT program, all of the services and U.S. Special Operations Command (USSOCOM) are afforded the opportunity to leverage our allies’ technologies, and provide the warfighter with much needed equipment, in a rapid manner. Many FCT projects have reduced the total ownership cost of military systems, cutting overall acquisition and support expenditures while enhancing standardization, improving allied cross-service support, and promoting international cooperation and interoperability.

The USAF has always played a major role in the FCT program by identifying allied and friendly nations resources as a solution to our shortfalls. Over the past 20 years, \$55 million has been awarded by OSD to the USAF, resulting in procurements in excess of \$1 billion. An example of a USAF FCT program is the Next Generation Small Loader. The USAF had a requirement to acquire a 25K loader, which could be used with our cargo aircraft. Two foreign sources were identified with potential

equipment to fulfill the requirement. After rigorous testing of the equipment, a single candidate was qualified as best value for the USAF, and procured.

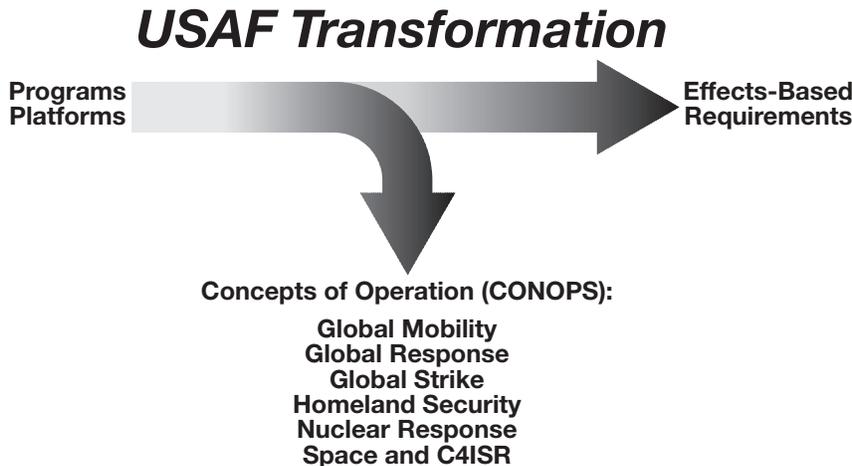
International Armaments Cooperation Supports Air Force Transformation

The U.S. Air Force’s Transformation Flight Plan from SECAF and CSAF offers a vision for the future. The U.S. Air Force has moved from concentrating on program and platform-centric requirements, to now defining requirements considering effects-based capabilities. These capabilities drive all aspects of planning including international cooperative endeavors in support of a transformational Air Force.



Small Loader

To make this essential shift, the U.S. Air Force has developed six concepts of operations (CONOPS): Global Mobility, Global Response, Global Strike, Homeland Security, Nuclear Response, and Space & C4ISR. All of SAF/IA’s actions support one or more of these CONOPS in unique ways that merge the U.S.’s and allies’ strengths and objectives.



As stated earlier, the relationships that the USAF builds with other nations’ air forces through IAC agreements are the critical enablers for an expeditionary air force fighting a sustained global war. In building such relationships, SAF/IA not only facilitates the U.S. Air Force’s ability to operate globally, but also to cooperate with allies to advance their own capabilities to protect their interests, maintain security and deter and fight aggressors independently or in concert

with the U.S. These capabilities-based initiatives are not limited to aircraft, space systems, weapons systems and sensors – they are about interoperability, concepts of operations, training, logistics support, maintaining and improving proficiency, etc., forming a solid foundation for effective military-to-military, and industry-to-industry relationships.

Space is a critical element of transformation and SAF/IA is postured to seize opportunities to engage allies to advance national interests in enhanced capabilities, deepened interoperability, and cost-effective investment, while also leveraging those international partnerships to integrate the domestic owners and users of space systems. The USAF has cooperative efforts with key allies in several mission areas including position, navigation and timing; communications; meteorology; and intelligence, surveillance, and reconnaissance. Although similar to other cooperative defense initiatives, there are some key differences in the national security space enterprise where international cooperation is concerned. For example, cooperation with allies allows the U.S. to more fully utilize space systems. U.S. equipment and personnel on the ground will not be able to handle the mountains of data that will stream down from the advanced systems currently under development. In one particular Intelligence, Surveillance and Reconnaissance (ISR) mission area alone, the national security space community will launch one satellite per year over the next ten years, resulting in 32 times the amount

of data. In order to turn that data into information products useful to coalition leaders and warfighters, it must be down linked, exploited with various tools and techniques and disseminated in a timely fashion. The assumption of geographic reporting roles by key allies offers an optimal solution for alleviating this impossible burden on the U.S.'s analytic infrastructure. Such operational burden sharing arrangements, however, are most effective when they are based on cooperative research and development relationships established early in the program, providing allies with the opportunity to understand, train, and invest in future capabilities. Related to this is the reliance of space systems upon distributed mission ground stations to download and relay data as part of their operational architecture. Physics and orbital dynamics demand that the U.S. build and sustain solid relationships with allies to ensure the continuity of hosted ground systems required for networked operations. This relationship building requires sustained, high-level attention in order to address the myriad of issues accompanying hosted ground sites. These innovative approaches with our allies will advance research and development and acquisition programs, leverage allied investments to bring operational capabilities on-line early, exploit new systems to their fullest, thereby ensuring interoperability.

Interoperability and International Armaments Cooperation

Coalition interoperability is the key success predictor in future joint missions. Whether working at the political level for commonality of purpose, or at the science and technology level developing joint requirements, harmonizing efforts will create tremendous synergy in joint military engagements from day one of a conflict.

The U.S. seeks to align its Air Force transformation strategy with the efforts of friendly and allied air forces as a critical and important part of the efforts from SAF/IA and the broader USAF. There are numerous ways that the U.S. and its friends and allies can work together to help achieve effective interoperability. A primary approach is to share critical technologies necessary to support current and future combat capability. In an interconnected world, facing terrorism and other transnational threats, the U.S. would prefer to not go it alone – having friends and allies with the appropriate capabilities to combat and defeat common enemies is essential. When we fly and fight together, coalition operations are proven force and success multipliers.

There is a global shortage of high-demand, low-density (HDLD) strategic assets. The Airborne Warning and Control System (AWACS) is an essential capability for coalition operations. NATO AWACS is an example of a cooperative program focused on achieving interoperability in coalition operations, in which many nations throughout Europe are collectively engaged. The program developed an airborne warning system consisting of a North Atlantic Treaty Organization (NATO) owned and operated core capability. The use of NATO AWACS in Operation Iraqi Freedom and the Global War on Terrorism (GWOT) provided vital aerial surveillance over the Atlantic while U.S. AWACS were deployed to the Middle East. The NATO AWACS program was able to expand the number of HDLD assets available for coalition tasking.

Challenges in International Armaments Cooperation

While there are many IAC initiatives underway, there will always be challenges. We all face the reality of political environments that sometimes make cooperation between nations difficult. The need for interoperability is often misinterpreted as U.S. government pressure to buy American. That is not the strategy of U.S. senior leadership. In some cases there is a need to protect critical defense sectors, but there is ample room for collaboration at both the industrial and government levels. The U.S. Air Force intends to encourage and seek ways to cooperate at the system and sub-system level to achieve interoperability goals without necessarily expecting that countries buy U.S.

Along the same lines, it is necessary to avoid becoming blinded by the “not invented here syndrome,” in seeking to



purchase U.S. first, and U.S. only. It cuts both ways and many friends and allies act with similar motivations. For some sectors, there is even U.S. legislation to consider American manufacturers first. In all cases, though, such consideration need not be to the exclusion of foreign manufacturers with significant capabilities, particularly if it could result in procurements that are better, faster or cheaper.

One of the most often cited issues is the gap in defense expenditures, and the fact that the U.S. defense budget far exceeds every other nation. While the amount of money the U.S. expends is significantly higher, relative to all nations, the U.S. still experiences funding constraints and a need to prioritize. Although the U.S. industrial base is diversified, the U.S. government continues to seek collaborative opportunities for unique technologies and world-class expertise. Instead of cooperating across all technologies, it is important for our partners to seek ways for smarter cooperation and focus their efforts in specific areas (“technology niches”) that serve to mutually advance capabilities and interoperability.

Another challenge to cooperation and information exchange is disclosure and export licensing processes that are currently under review. While the policies will not be revoked, the processes can be expedited and the U.S. DoD disclosure offices are making great headway in this area by prioritizing requests and accelerating the release of information through the appropriate channels.

Summary

Armaments cooperation is a fundamental element of the relationship that demands interoperability and synergy of capabilities. Cooperative endeavors and steadfast relationships are critical factors required to defeat an unconventional, agile, transnational enemy. With people as the crucial catalyst, relationships will continue to flourish at all levels, leading to ever-closer ties among nations, militaries and industries. There are a variety of resources available to further efforts in pursuit of coalition interoperability, critical on and above the battlefield. There are many examples of successful cooperative programs. We need to continue to identify unique opportunities for developing world-class technologies in support of transformational objectives. While there may be challenges along the way, history has taught us that they are surmountable, and as we increase our cooperative pursuits we also enhance the critical bonds of our international relationships. Armaments cooperation requires the same leadership commitment that has been demonstrated in the Global War on Terrorism, for it is an essential element in achieving victory.

About the Author

Thomas L. Koepnick is an armaments cooperation manager for the Deputy Under Secretary of the Air Force, International Affairs, Headquarters U.S. Air Force, Washington D.C. He earned a Bachelor of Arts from the University of Dayton in 1970, a Master of Arts from the Ohio State University in 1972, and a Ph.D. from the Ohio State University in 1976, focusing on Russo-Soviet history. His professional experience includes work as an analyst at the National Security Agency, country/case manager at the Air Force Security Assistance Center, and strategic planner at Headquarters Air Force Material Command.