PART 3

Lessons Learned: Defense Cooperation in Practice

An understanding of past successes, as well as failures, can assist efforts to improve transatlantic defense industrial cooperation in the future. Despite the formidable political, legal, and regulatory barriers to cooperation, U.S. and European governments, their defense establishments, and defense companies on both sides have promoted cooperation in a variety of forms for the past four decades.

To be sure, over the years, there have been various setbacks and aborted attempts at forming viable cooperative ventures in the areas of armaments and dual-use goods and technologies, but cooperation is ongoing—a tribute to the vitality and creativity of industry in constantly exploring new opportunities and responding to changing circumstances.

Forms of Cooperation

Defense cooperation between the United States and Europe can take various forms that involve differing degrees of government and industry initiative, as well as varying levels of complexity, financial and political commitment, and controversy. At one end of the spectrum are relatively simple, project-specific exchanges between individual government scientists and engineers. Codevelopment programs under government sponsorship, by contrast, are complex and difficult undertakings. (A longer description of the various forms of transatlantic defense cooperation, as well as a survey of selective past failures and successful/ongoing cases in defense industrial collaboration can be found in appendixes D and E.)[45]

The Evolution of Cooperative Programs

The opportunities for transatlantic defense industrial cooperation and the importance assigned to this goal have changed significantly over time. Evolving threat perceptions, changes in U.S. administration, developments within NATO, and

45. References to several case studies in the following pages and related appendixes are drawn mostly from corporate briefings made in the context of the CSIS Commission's experts group: CFM-56 and Transatlantic Joint Demonstrations (SNECMA); Thales-Raytheon Joint Venture and Racal Acquisition (Thales); Alison Engine Company Acquisition (Rolls-Royce); MEADS (EADS); Harrier AV-8B (Boeing/BAE SYSTEMS); XM777 (BAE SYSTEMS); RAM (Raytheon); Gripen (Saab); and JSF (Lockheed Martin).

progress in Europe toward greater political, economic, and defense integration all have impacted on the willingness of policy and business leaders to press ahead with various forms of defense cooperation.

The 1960s

In the early 1960s, the U.S. government promoted bilateral master data exchange agreements (now titled master information exchange agreements) with several major NATO members. These early agreements allowed scientists and engineers from the partner countries to meet periodically and share the findings of generally modest technical projects. This early form of cooperation facilitated friendships among junior and mid-level scientists and engineers, some of whom would later rise to senior positions in their respective governments—creating fertile ground for more ambitious projects.

The 1970s

The early 1970s saw the birth of several cooperative programs, including the NATO Airborne Early Warning and Control aircraft fleet, the Rolling Airframe Missile development (Denmark, Germany, and the United States), European production of the F-16 aircraft (Belgium, Denmark, Norway, and the Netherlands), and the Multiple Launch Rocket System development (France, Germany, the United States, the UK, and later Italy). Also, 12 first-line U.S. weapon systems were offered to NATO members in the late 1970s for what was then called "dual production."[46]

This period also produced the Culver-Nunn Amendment, which encouraged the U.S. DOD to enter into what are now commonly referred to as reciprocal defense procurement memorandums of understanding. The United States has signed 21 such bilateral agreements to date. The MOUs waive the Buy American Act and obligate the signatories to emphasize the use of free and open competition, when making national acquisition decisions, and to consider acquiring military equipment produced by the other signing party. The practical effect of these memorandums may be limited in practice, however, since acquisition decisions are regularly influenced by factors other than technical and financial criteria.

In the late 1970s, the Carter administration attempted to jump start cooperation for "strategic" reasons, with meager results. The administration's initiative aimed at better coordination of weapon system research, development, and production activities among NATO capitals, but it was quickly blunted after encountering strong resistance from within DOD.

The 1980s

Renewed impetus for cooperation would come in 1980, when the U.S. Congress initiated the Foreign Weapons Evaluation Program, supplemented in FY 1986 by the NATO Comparative Test Program. Both initiatives were subsequently consoli-

46. Among those systems were the Stinger man-portable air defense system and the M-483 (155mm) Improved Conventional Munition. All 12 systems represented the best of breed at the time. Both the Stinger and M-483 were eventually produced in Europe, thereby improving NATO's defense posture while avoiding duplicative R&D programs.

dated into the Foreign Comparative Test Program. Under this program, DOD receives funding to test nondevelopmental items that are produced by allied and friendly countries in order to satisfy U.S. defense requirements more quickly and economically than would be possible by following the normal DOD acquisition process (development, testing, production). Though comprising only a small part of overall DOD acquisition activity, the program's impact has been significant for many participating suppliers, amounting cumulatively to $5.2 billion (in FY 2000 dollars).[47]

The 1980s also witnessed the start of numerous government-to-government cooperative programs, with new resources made available by the Reagan military buildup and new proposed ways to proceed with cooperation in a manner consistent with U.S. regulations and practices. Successful cooperative programs included the Multiple Launch Rocket System, which entered production in the 1980s, and the innovative Roland-Patriot program with Germany. These programs and the export sales that proceeded in parallel increased dramatically the interaction between U.S. and European defense and aerospace companies. Congress assisted in the effort by passing new legislation that facilitated cooperative development programs and removed some protectionist legislative provisions. Beginning in the 1970s and continuing through the 1990s, Senators Nunn, Culver, Roth, Warner, Quayle, and McCain each sponsored legislation supportive of U.S.-allied defense cooperation. Although budget cuts subsequently led to the cancellation of many of those programs, a few survived and proceeded to production (e.g., RAM, MIDS).

Continuing concerns about NATO capabilities during this period lent greater urgency to efforts at improving defense cooperation. In the late 1980s, NATO secretary general Lord Carrington began to argue for a process that would identify areas in need of optimal application of alliance resources. After heated debate, NATO armaments directors created the NATO Conventional Armaments Planning System, an initiative that ultimately failed due to the inability, or unwillingness, of national armaments directors and their ministers to halt domestic programs and replace them with cooperative ones.

The 1990s

Under the Clinton administration, the Pentagon attempted to breath new life into cooperation. Secretaries William Perry and William Cohen spoke out repeatedly about the importance of allied interoperability as an enabler of effective coalitions. In March 1997, just weeks after taking office, Cohen issued a policy memo that underscored the importance to DOD of international cooperation.[48] DOD also created the International Cooperative Opportunities Group (ICOG), in which DOD officials and their counterparts in the British, French, German, and Italian Minis-

47. Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), *Annual Report to Congress: The Foreign Comparative Testing Program, Fiscal Year 2000* (Washington, D.C.: U.S. Department of Defense, February 2001).

48. Secretary William Cohen, "DOD International Armaments Cooperation Policy," U.S. Department of Defense memo, March 23, 1997.

tries of Defense could jointly explore ways to collectively satisfy their priority military requirements.[49]

Despite renewed efforts, however, declining defense investment largely precluded both domestic and transatlantic "new starts" during the 1990s. As post–Cold War defense investment declined throughout the decade, so did U.S.-European interaction. The most notable new initiatives under the Clinton administration were the German-Italian-U.S. MEADS and the Joint Strike Fighter. The decline of cooperation across the Atlantic was also accompanied by a concomitant increase in intra-European activity.

Conditions and Requirements for Success

An overall assessment of past efforts, including failures as well as successes, points to several external conditions and internal requirements that are necessary to facilitate, if not ensure, the success of a cooperative program (see also appendix E).

Transatlantic projects should, first of all, have a clear objective, such as responding to a specific military-equipment need shared across the Atlantic, and should make good business sense, such as offering unique synergies, future potential for cooperation, or enhanced interoperability in key areas (shared technologies, advanced weapons systems, etc.). They must respond to both government and industry interests and respond to either existing or new, identifiable needs.

Every cooperative international program needs a generally agreed military requirement that, in turn, has a high enough political priority to warrant funding and staffing. Governments need to recognize and adopt the requirement before allocating funding to support a related industry-led solution. The *XM777 Lightweight Howitzer* program is an example of a UK company (BAE SYSTEMS) responding to a U.S. military materiel requirement through close interaction with the U.S. Army and the U.S. Marine Corps. The *Thales-Raytheon joint venture* is another example of transatlantic cooperation based on a clear assessment of potential synergies and shared benefits, which were ultimately able to overcome the administrative, legal, and financial hurdles.

Although the presence of a firm and recognized military requirement is necessary for launching any cooperative undertaking, it cannot guarantee success. Even "high-priority" military requirements may prove transient in nature, particularly when governments change or significant budgetary pressures exist. The pronounced oscillations in White House support for a U.S. missile defense program during the last four U.S. administrations make this point. Furthermore, even firm, high-priority requirements can be negated overnight by changes in the overall security environment or by the mere replacement of a single flag rank officer. Military requirements are creatures of the authority charged with generating requirements and consequently may vanish when incumbents move along to a new posting.

49. The Bush administration retained the ICOG framework, identifying eight areas for consideration by the group, including UAVs, chemical-biological/WMD defense, training and exercises, combat identification, littoral small ship technologies, mine countermeasures, air refueling technologies, and interoperable tactical communications.

This "vanishing act" occurred in 1980 with the British-French-German-U.S. *Family of Anti-Armor Weapon Systems,* when the then U.S. Army chief of staff retired. What had been the army's first priority became a nonpriority overnight. Conversely, a stable, internationally agreed military requirement contributed to the success of the *NATO Seasparrow Missile* for over 30 years.

Considerations for Policy

- Strong and/or consistent commitment to transatlantic cooperative projects on the part of governments is vital.

Although the presence of a firm and recognized military requirement is necessary for launching any cooperative undertaking, it cannot guarantee success.

Funding is an exceptionally strong proxy for political support. This is especially true at the launch of a project, but also beyond its initial stages to ensure continued funding over a long period of time. Therefore, an up-front funding commitment should be an integral part of every government-to-government program or MOU. Failure to include such a commitment will lead to situations like MEADS where each year is accompanied by a new funding crisis.

Almost all successful transatlantic projects have, to some degree or another, involved strong political backing, especially within the DOD and the respective European defense ministries. A high-level sponsor and/or visibility can also contribute significantly to a program's survival by preventing it from being relegated to a lower-priority level and by fending off ill-advised, outside opposition—be it from the legislative branch, the armed services, or other sources of domestic resistance.

Though a necessary condition for success, support—even from the highest political levels—is by no means sufficient to overcome the resistance of staff, who typically outlive the relative transient tenure of senior officials. For example, notwithstanding sustained political support from numerous U.S. secretaries of defense over 10- to 15-year periods, the *NATO Identification System* and the *Terminal Guidance Warhead* (for the MLRS) failed. (On the other hand, the MLRS and now the GMLRS are positive examples of programs that have been supported and are now either fielded or in late stages of successful development.)

Certainly, delivering on a transatlantic cooperative venture is even more difficult than delivering on a domestic program. Supporters of the former encounter all the usual domestic challenges, plus strong resistance from those, at home and abroad, who may object to a cooperative solution for a variety of reasons.

The most effective "product champions" exhibit a combination of political, management, technical, and organizational skills, as well as perseverance and longevity. Product champions can be professional staff in the Office of the Secretary of Defense (OSD) or the various ministries of defense. Alternatively, they can be professional staff within the military department responsible for the program or the program manager.

In the end, however, support at all relevant levels of the decisionmaking process is indispensable. Equally important as ensuring the governments' commitment is the need to penetrate and achieve the agreement of the military services in the

United States and Europe who handle defense acquisition matters. Absent the embrace of these organizations, the project will be doomed if it relies solely on OSD/MOD-level policymakers for its support.

The U.S. Marine Corps, for example, saw the potential operational utility offered by the *AV-8 aircraft* and supported the program throughout its life; it is now supporting a short takeoff and vertical landing variant of the *Joint Strike Fighter*. Taking a European example, the Swedish government's allocation of sufficient funding for 18 years was a key factor in facilitating the long-term success of the Saab-produced *Gripen aircraft*. In contrast, the *MEADS* program, which has come so far only because of repeated political interventions in the past, currently suffers from lack of a strong product champion; no strong advocate within either the Missile Defense Agency (MDA) or the U.S. Army has emerged to champion the program, to the detriment of this long-sustained cooperative effort.

…support at all relevant levels of the decisionmaking process is indispensable.

- Cooperation on the part of the U.S. Congress and of EU/national parliaments, including closer and more frequent consultations between the two, need to be nurtured, especially as steady funding for long-term programs remains dependent on legislative approval.

MEADS is probably the most telling example of how transatlantic programs can risk failure as a result of legislative and budgetary restrictions on either side of the Atlantic. *RAM* was equally threatened with an end to its funding in the mid-1980s, but owing to strong political support from within the Pentagon the program was ultimately maintained.

This need for legislative support holds special resonance in the United States, where congressional "buy-in" is essential to sustain cooperative programs. For example, after the UK and the United States signed the JP-233 MOU in the early 1980s, Congress took strong exception to the program, forcing DOD to withdraw within weeks of entering. The termination costs exceeded U.S. obligations under the MOU. Similarly, Congress also took strong exception to DOD's continued participation in the *155mm Advanced Precision Guided Munition*.

On the positive side, congressional pressures at times have aided U.S.-allied cooperative efforts as well. In the mid-1970s, for example, legislation prompted DOD to negotiate a series of reciprocal defense procurement MOUs that allowed the Pentagon to waive the Buy American Act. The Nunn Amendment in the mid-1980s provided funds specifically designed to jump-start codevelopment programs with NATO allies.

- Transatlantic projects should not be left to compete against existing "black" or classified national programs.

Many cases of transatlantic defense cooperation eventually were launched and sustained because of the lack of a proven and capable domestic alternative. When the military requirement is firm and a suitable domestic competitor does not exist, a compelling political argument can be made for foreign partnership or acquisition.

A foreign partnership or acquisition that otherwise makes good sense may not get off the ground, however, if it is a potential competitor to a domestic black program. This is particularly true with regard to U.S. black programs, which project an almost mystical aura, causing them to be regarded by junior and mid-level staff as representing the best of what U.S. technology has to offer. At times such programs may secure sufficient backing to elevate them vis-à-vis a "white" program originating from a domestic competitor, let alone a foreign company. This elevation generally applies regardless of whether the white program competitor is both proven and affordable, and the black program competitor is untested or of an indeterminate price. Moreover, black programs operate in ways remote from the acquisition process and, therefore, are insulated from those who would question their superiority in classic terms (i.e., performance, price, schedule, and risk).

The record so far with regard to black programs is mixed, but their occurrence has been frequent enough to result in much ill feeling, especially on the European side. Cases such as the *Modular Standoff Weapon* (MSOW) and the *Terminal Guidance Warhead* (TGW) were in the end cancelled in favor of solutions that were deemed neither more adequate nor necessarily more cost effective in meeting the declared requirement than their transatlantic alternatives. The *Rolling Airframe Missile* (RAM) project also faced domestic competition in the United States at the time of its launch, but because its relative advantages could be proven and successfully defended, the project was ultimately saved.

- Separate political initiatives from programmatic initiatives.

In the past, the U.S. government displayed an occasional tendency to deploy cooperation as a vehicle to achieve political goals rather than as a means to improve a military capability. That approach typically failed to achieve either objective in the case of missile defense. It neither produced strong alliance-wide support for missile defense (often it achieved the opposite) nor did it field an alliance-wide missile defense system.

Recently, the Bush administration broke that pattern by seizing upon a new strategy when it simply announced its intention to proceed unilaterally, while quietly inviting companies from allied countries to participate in ways those companies believed made good business sense. No government-to-government agreement would be required as a prerequisite, nor would allied governments be asked to contribute financially to a missile defense program. In-kind contributions from allied governments (such as real estate for new or upgraded radars) would be welcomed, but would not be essential.

Overall, the new approach could foster a de facto alliance-wide missile defense program that moves forward in the form of small pieces below the sensors of U.S. and European opponents of missile defense. At present, the evolution of a transatlantic approach to ballistic missile defense (BMD) is still uncertain, but the new approach also shows promise in placing future potential European participation in missile defense in the broader context of alliance transformation—where missile defense investment decisions by national capitals are weighed against competing demands (like network-centric warfare and precision-guided weapons).

- Major legal and regulatory obstacles must be removed to promote closer cooperation among defense companies and governments across the Atlantic, as well as real reciprocity, fostered by a "level playing field" with equivalent access to one another's markets.

To be successful, a cooperative program must comply with existing laws and regulations—or, at a minimum, have sufficient political and staff support to change the legal, regulatory, or political impediments to cooperation. Moreover, the program sponsor must possess the professional competence and operational skill to navigate the maze of statutory, regulatory, and policy bureaucracies. Particularly critical is the ability to secure export licenses on time, as well as the needed authority embedded in those licenses.

In theory, the large number of functional specialists within defense establishments, and their counterparts elsewhere in government, are well equipped to find solutions to these problems. Practice differs dramatically from theory, however. The Carter administration, for example, experienced strong resistance from the DOD professional staff when then-Secretary Harold Brown and his senior subordinates signaled their collective desire to launch a series of codevelopment programs with other NATO members. The White House eventually prevailed, but the resistance caused false starts, delays of several years' duration, and lost opportunities. Protectionist legislation can create additional obstacles, prohibiting DOD from acquiring certain defense products and materials produced in other countries.

Continued inefficiencies with regard to the U.S. license review process, despite several recent attempts to streamline procedures and decrease processing times, cannot be allowed to persist either. Although many of the current regulations governing defense trade and cooperation are designed to meet legitimate national security objectives, bureaucratic restrictions that tend to hamper routine transatlantic dealings rather than provide effective safeguards against the flow of unauthorized transfers have become both obsolete and counterproductive.

On the European side, progress toward a more conducive operating environment is also wanting. A common regulatory EU framework, including convergence in national export control procedures along the lines of the six-nation framework agreement, is an inescapable precondition for many future transatlantic programs that are more ambitious in scope requiring longer-term planning, financial outlays, and efficient pooling of resources by European industry.

Given the greater homogeneity of domestic rules and regulations applying to U.S. companies, the latter can compete more effectively for domestic armaments projects. If Europe wishes to act as an equal partner in future transatlantic defense industrial ventures, it must exhibit a similar capacity at generating large economies of scale and technological synergies at home. If European companies are to become equal partners in transatlantic projects, they must be allowed to compete and cooperate within the broader EU market to the same degree that their U.S. counterparts are able to do on the other side of the Atlantic.[50]

Government involvement in national defense industries is currently a fact of life. However, national governments on both sides of the Atlantic should endeavor diligently to abide by applicable international trade rules, particularly those pertaining to unfair subsidies, in order to ensure such involvement is disciplined and

does not distort trade in defense and commercial goods as well as transatlantic projects.

Considerations for Industry

- The initiative for transatlantic cooperative projects rests primarily with industry.

This requirement is crucial to ensure the long-term financial viability and practicability of any cooperative program. Although governments are responsible for securing a level playing field and for defining specific military requirements, it is industry's role to translate such requirements into workable solutions. The *AV-8B Harrier program* delivered by Boeing (formerly McDonnell Douglas) and BAE SYSTEMS (formerly British Aerospace) for the U.S. Marine Corps presents one of many such successful industry initiatives involving companies from both sides of the Atlantic.

- A "shared vision" and strong commitment on the part of industry leaders is also important.

Even sound financial planning and favorable initial conditions cannot discount significant uncertainty about the long-term prospects of most transatlantic projects. Absent sufficient commitment and a common vision, such uncertainty can breed mistrust and doubts, potentially threatening the survivability of an entire effort. The 25-year-old U.S.-French cooperative project—between *Pratt & Whitney* and *SNECMA*—in the field of rocket engines and nozzles is a testament to the mutually shared, long-term vision on the part of both sides' corporate leadership.

- Transatlantic cooperative projects should aim at the closest possible harmonization of requirements among all partners.

Working for maximum design commonality and agreeing on the performance characteristics of the final product can defend against the subsequent collapse of an otherwise fiscally sound project. Translated into military *and* coalition benefits, such harmonization can ensure systems interoperability and compatibility. In the case of the *RAM program*, U.S.-German recognition of a real common threat and the use of existing missiles and technology allowed for the evolution of legacy pro-

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50. STAR 21, in addition to increased overall defense spending, calls for the following:

"• Formulation of a common European armaments policy based on a sustainable defence technological and industrial base, with development of effective R&D programmes to meet the defence and security needs identified for Europe's Common Foreign and Security Policy and to enhance European capabilities within the North Atlantic Alliance.

"• Promotion at the level of all Member States of efficient arrangements for armaments cooperation based on best examples derived from the LoI Framework Agreement for Defence Restructuring.

"• Creation of a coherent EU framework to shape an integrated European defence equipment market allowing industry to exploit economies of scale and to deliver at an affordable price the equipment and services required by the European common policies and the export market."

See European Advisory Group on Aerospace, *STAR 21—Strategic Aerospace Review for the 21st Century*, pp. 31–32.

grams within the framework of a harmonized requirements statement. The eight-nation NATO Frigate Replacement of the 1990s (*NFR-90*) and the German-U.S. Main Battle Tank of the 1970s (*MBT-70*) both failed in large part because the participating governments held substantially different views about what the nature of the requirement and the best technical approach ought to be.

To be sure, governments have to take the lead in setting the military requirements and broad policy guidelines within which industry can subsequently operate and cooperate. Yet how to translate such military requirements into cooperative requirements—and, in turn, into well-structured cooperative industrial arrangements—remains the responsibility of industry leaders.

- The nature of the contractual relationship must be clearly defined and acceptable to all parties.

Equality in partnership may, at times, be neither desirable nor feasible. Indeed, in some cases reciprocal arrangements can prove to be far more appropriate for the intended purpose than agreements that seek parity among partners at all levels and in all market segments. One successful example, where special contractual arrangements were inserted into the final agreement, is the *AV-8B Harrier* program: in the United States, McDonnell Douglas was designated as the prime contractor and British Aerospace as the subcontractor, while the reverse relationship was established in the UK.

The concept of fairness—like the notion of trust—is important in any potential form of cooperation. Partners in a cooperative undertaking are more strongly motivated if they believe the benefits they will receive through cooperation are consistent with their contributions and with the risks they are willing to assume. In many successful cases of cooperation, participating governments and their defense companies shared the benefits equitably. Examples of a "fair" division of benefits include the *NATO Seasparrow* program and the *F-16* production by Belgium, Denmark, Norway, and the Netherlands.

The concept of fairness took a new turn with the *Joint Strike Fighter* (JSF) program. Other governments were invited to join on relatively flexible terms. The greater the financial contribution by a government, the greater the influence that government would have over program decisions and the potentially greater access that government's domestic defense companies would have to the program. Investment level would correlate loosely with future jobs.

It is important to note, however, that the JSF program has not been shaped, since the start, as a fully collaborative transatlantic program. Some European industrialists are said to be unhappy that the most technologically sophisticated, valued-added work on JSF may be restricted to the United States and its British partner in the program. It will be important in the future to foster transatlantic linkages at the early R&D stages of program definition, rather than encourage international participation in a program whose capabilities have already been largely defined to fit one country's requirements. Nevertheless, the overall interchange of technical data and coordination of requirements among JSF partners is unprecedented, with the latter providing leading-edge technology, state of the art manufacturing processes, and value-based products.

In addition, cost, intellectual property rights, and work share arrangements must be negotiated from the start, with due consideration for each partner's contribution to the project and each country's accounting and reporting procedures. This seems to be especially crucial in the case of codevelopment programs where cost sharing is a concern on both sides.

Throughout the 1980s, codevelopment agreements tended to follow a rigid formulation whereby each participating government's percentage work share would equal its percentage financial contribution. A diverging trend emerged several years ago, perhaps starting with the *Guided Multiple Launch Rocket System* program, and continuing through today with the *Joint Strike Fighter* program. Participating governments agreed to one of several formulations: subcontract work would be awarded on a competitive basis to the maximum practical extent; full consideration would be given to all qualified sources in each other's country; or a participating government could withdraw if its industry failed to capture a satisfactory amount of work. All the formulations are devoid of rigid work share requirements. The trend should yield improved efficiency within each codevelopment program, while obligating the participating governments and their prime contractors to remain sensitive to the job preservation/creation needs of all the parties.

The joint GE-SNECMA venture on the *CFM-56* engine is a case in point. Over the many years of close cooperation, the two partners have brought valuable technologies to the table, thus allowing for equal sharing of the development and production costs resulting in a product that is more affordable for both sides. In the *RAM* case—another cooperative development program that later evolved into a larger coproduction effort—early collaboration on reconciling different budgeting systems and on joint fund management rescued the program during periods of funding instability.

- Issues of technology sharing/pooling should be resolved early on in the launch of a transatlantic project and tailored as closely as possible to the needs of the specific project.

In some cases, where needed technologies derive from both sides and are sufficiently independent of each other so as not to impact the final success of the project (such as in the *CFM-56* case), the least possible technology release should be negotiated. By contrast, where technology sharing is an inescapable ingredient for the success of the project—and is accepted as such by the political leadership as well—implementation of any agreed terms should ensue with the least possible delay.

In the case of *MEADS*, for example, the inability to agree on the timely release of needed U.S. technology led to a serious disruption of the project, even after it had been launched. By contrast, the Saab-produced *Gripen* aircraft, which draws heavily from U.S. (and European) subsystems, could consistently rely on timely release of necessary technology from the U.S. side.

On the other hand, where a proposed merger or acquisition is at stake, all efforts should be focused on making the nature of the new legal entity fully compliant with security-related regulations. The successful acquisition of U.S.-based *Allison Engine Company* by *Rolls-Royce* was largely due to Rolls-Royce's decision not to break up and sell or to move out of the United States. Similarly, the decision

of France's *Thales* (then–Thomson-CSF) to create a separate corporate structure for its newly acquired electronics division owned by British *Racal*, while serving the interest of both Thales and the UK government, was effective in overcoming any remaining U.S. national security concerns.

- Early clearance by relevant national authorities should be sought.

Securing early approval on both sides of the Atlantic for any proposed transfer, merger, or acquisition not only ensures that a sound project once launched will not face undue postponement or even cancellation as a result of subsequent bureaucratic opposition, but it also sends the right signals regarding the partners' seriousness vis-à-vis their governments and prospective investors. The fact, for example, that U.S. clearance was sought and granted early on during the negotiations for *Thales's acquisition of Racal* was a key factor in the success of that acquisition.

It is very encouraging to find the U.S. government working diligently to apply the Global Project Authorization to the *JSF* program. The ongoing effort marks the first time the U.S. State Department has been willing to apply the authority (contained in the 17-part Defense Trade Security Initiative) since DTSI was approved by President Clinton in May 2000.

- Participation in cooperative projects should involve only the minimum number of partners needed to guarantee the success of the project.

A limited number of partners allows for more efficient consensus to emerge with regard to joint program management strategies, as well as for key decisions at the tactical level. The experience of the *MEADS* (reduced eventually to three partners—the United States, Germany, and Italy) and *RAM* (the United States and Germany) programs are cases in point.

- Finally, new cooperative projects should, to the extent possible, be forward looking and have the potential for evolution.

Swift and skillful adaptation to new needs and evolving technologies should be feasible throughout the project's lifetime.

Such an approach not only increases the chances of a project's approval by governments but also offers new opportunities to expand transatlantic cooperation to areas that are often hard to identify or fully appreciate at the early stages of a collaborative effort. Moreover, given the unpredictability of common threats to security, well-established cooperation is better suited to respond to sudden security needs and changed circumstances than are ad hoc policy decisions and short-term industrial arrangements.

Naturally, industry is best suited to identifying such needs and capabilities, but their formulation and discussion has to emanate from the top. Policy leaders across the Atlantic need to develop more closely the agenda of their common security needs, including looking at ways and areas of defense industrial cooperation where such needs can best be addressed within the context of new and existing channels of U.S.-European cooperation. Such a well-coordinated top-down approach will quickly meet an effective bottom-up solution.