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# Appendixes

# Organizational Structures for Cooperation

## Defense Technology Collaboration in NATO

Within NATO, international cooperation in defense technology and weapon systems mainly takes place in three areas: under the NATO Infrastructure program; within the Conference of National Armaments Directors (CNAD); and in selected agencies known as NATO Production and Logistics Organizations (see figure A-1). The organizations and functions of each are described in the following paragraphs.

### NATO Infrastructure Common Funding

Of the 18 major NATO committees, only 2 directly control major NATO procurement funding and may intervene in procurement actions. The Infrastructure Committee reviews and approves candidate infrastructure programs, and the Payments and Progress Committee is responsible for their procurement.

The NATO Infrastructure Program provides a fully committed funding source for construction of wartime facilities dedicated to NATO use. Of the 13 approved categories eligible for NATO common funding, collaboration in defense technology involves only 3:

- **Communications, which includes military communications**, both ground and satellite, and connections with member governments.

- **Warning Installations**, which includes all forms of common use air defense and early warning.

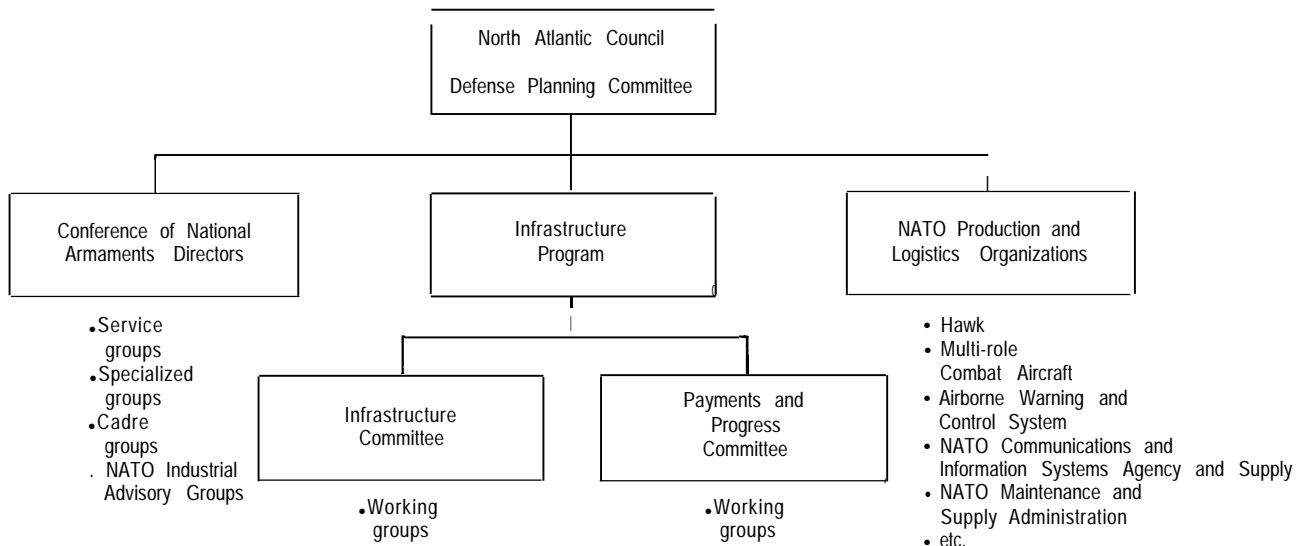
- **War Headquarters**, which includes static and mobile command systems.

The Infrastructure Program is funded by the 13 NATO nations having committed military forces, and France participates in selected Command, Control, Communications, and Intelligence programs.

The process for programming, funding, and implementing an infrastructure project is highly structured. The nations negotiate a 6-year financial ceiling based on proposals by the Major NATO Commanders, i.e., Supreme Allied Commander Europe, Supreme Allied Commander Atlantic, and the Allied Commander in Chief Channel. The 6-year ceiling is a binding commitment to contribute throughout the 6-year period.<sup>1</sup>

In this environment, collaboration in defense technology is a byproduct of acquisition. Procurement, even of complex high-value systems, continues to be based on fixed price, with some variations. In the bidding phase the infrastructure procurement process is governed by International Competitive Bidding (ICB) procedures originally conceived to guide the construction of airfields and other brick and mortar projects. In the execution phase a host nation is assigned responsibility for procurement.

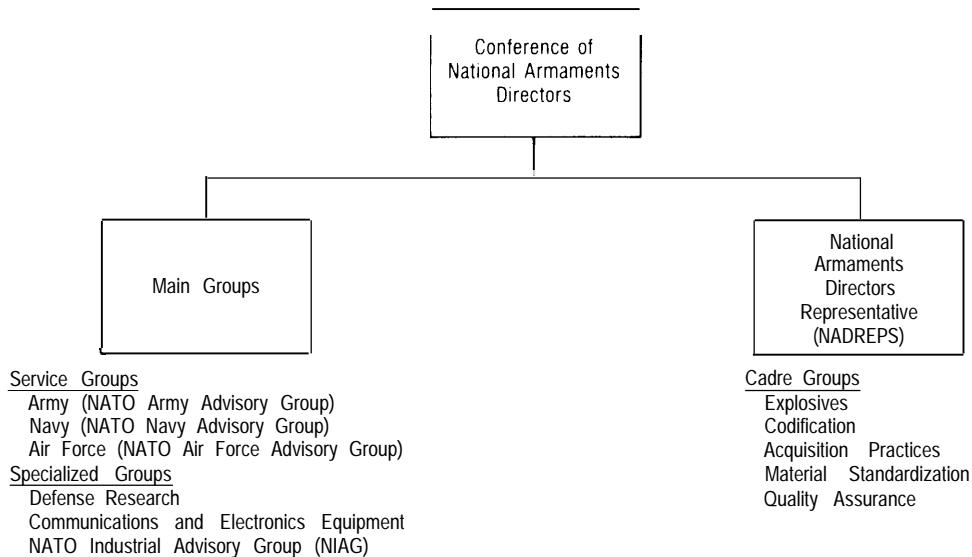
Figure A-1—NATO Committees Dealing with Armaments and Technology



SOURCE: Office of Technology Assessment, 1990.

<sup>1</sup>The current 6-year group of annual programs or slices (1985-90) was agreed on at a level of 3 billion International Accounting Units, or about \$12 billion at present exchange rates. On the average, between 35 and 40 percent of the program is assigned to advanced technology projects.

**Figure A-2—Armaments Planning and Cooperation**



**SOURCE:** Office of Technology Assessment, 1990.

Host nations can be contributing NATO nations, NATO agencies, military authorities, or other bodies. Either agency or national procurement procedures are used, but are modified by the ICBs. The guiding principle is avoidance of discrimination, implicit or overt. In spite of repeated efforts to bring procedures into line with the technological realities, the nations have not been willing to delegate the necessary authority.

Nevertheless, increasing emphasis on advanced technology made it inevitable that a way be found to inject greater flexibility and professionalism into the NATO systems procurement process. One step in this direction was the September 1989 North Atlantic Council decision to create a NATO Air Command and Control Management Agency to implement a sophisticated multibillion dollar air defense system [the Air Command and Control System (ACCS)]. This multinational effort is to be funded through a combination of national and NATO Infrastructure funds and will require the involvement of the Infrastructure committees and the ICB. Present estimates place the total cost of the ACCS at about \$25 billion. The task simply seems too complex and costly to make lowest acceptable bidder a practical guideline. Successful implementation of ACCS may require that individual Alliance members give up their traditional control of complex system acquisitions.

### **Conference of National Armaments Directors (CNAD)**

Armaments cooperation under the NATO umbrella is in its third phase since the end of World War II. In the first phase (1951-58) the nations participated in so-called Correlated Production Programs, characterized by a relatively free exchange of available designs and know-how. The aim was early and quick production and it was unhampered by national military turf protection and the “not-invented-here” syndrome. It was doomed by rising nationalism in Europe and gave way to the second phase (1959-66), which focused on cooperative programs based primarily on NATO Basic Military Requirements. These were logical but inflexible. The third phase (1966-present) was launched with the creation of the Conference of National Armaments Directors (CNAD), a committee reporting to the North Atlantic Council, thus bringing in the French, and comprised of the member nations’ chief procurement officials. NATO was shifted into the role of coordinator and facilitator. The new approach offered greater flexibility to nations, in fact so much that some structure eventually had to be given to the process.

If a structured approach to acquisition and careful attention to ground rules are the earmarks of the Infrastructure Program, free-form collaboration has characterized NATO armaments cooperation. If two or more countries agree to initiate a project, it counts as a NATO project. As it evolves, others may join under terms worked

out with the original members. Nations may stay with a project from its initial stages to the point of production, or they may drop out at any time. The projects are held together by project-specific memoranda of understanding between the participating nations; there is no commitment to or through NATO as an organization.

The CNAD's subordinate structure includes scores of committees and special groups, but most of the cooperative activities fall under one of six Main Groups (figure A-2). These include one for each of the three services (Armament Groups) plus a special group on defense research and another on communications/electronics equipment.

The sixth group, the NATO Industrial Advisory Group, is composed of representatives of national defense industries, who provide industrial advice to the CNAD and the Main Groups and carry out studies in connection with CNAD projects. There are also numerous Cadre Groups that deal with cross-cutting subjects affecting the activities of the Main Groups. Ad hoc groups are formed as needed to address special one-time issues.

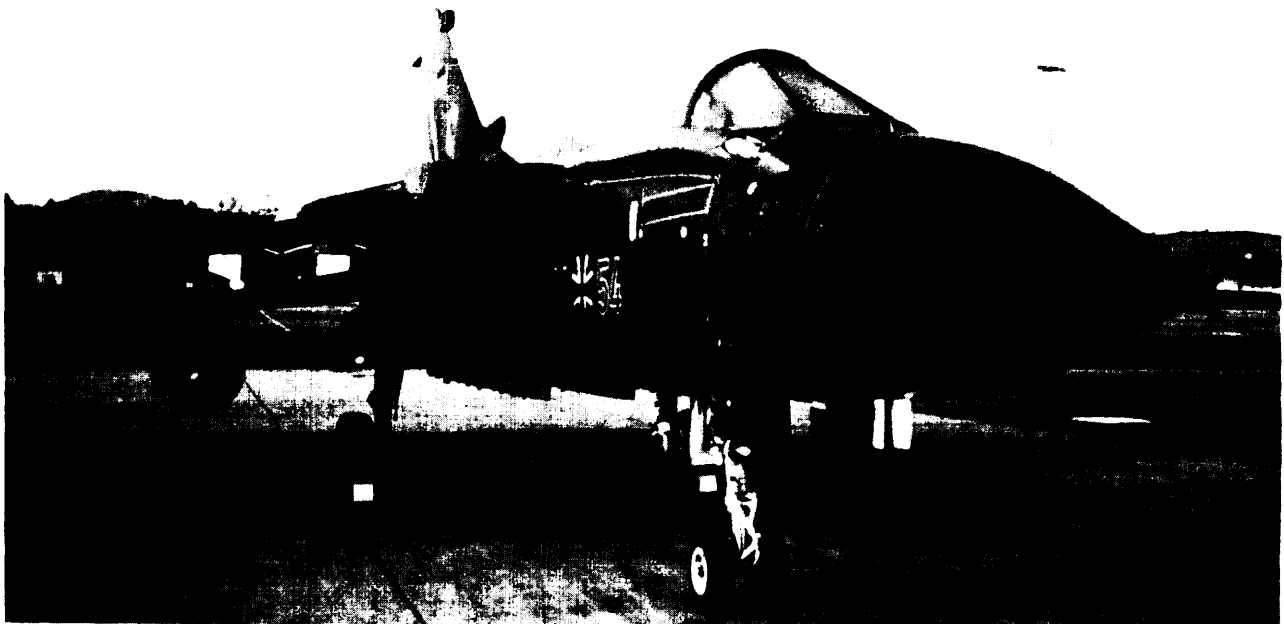
Both the Main and Cadre Groups have subordinate bodies called sub-groups, panels, information exchange groups, working groups, and study groups. A special form of the subpolicy-level activity is the group of National Armaments Directors Representatives. These are members of national delegations resident in Brussels who meet

every week (or more often if necessary) to deal with current issues and to act on behalf of armaments directors on new proposals or to followup CNAD's semiannual meetings.

While the CNAD structure was explicit, the process for cooperation was not, resulting in a great deal of activity and few results. There were a number of successful CNAD sponsorships, including the Anglo-French helicopter, the Multi-Role Combat Aircraft, the 155-mm Towed Howitzer and the Milan Guided Anti-Armor Weapon. However, these programs were largely formulated outside of NATO and brought, after the fact, to the CNAD for its blessing as NATO projects.

By the mid-1970s, it became clear that greater order was needed in the Alliance acquisition process. As a result, a new procedure known as the Phased Armaments Programming System (PAPS) was established by CNAD in 1981 to deal with spiraling defense costs and persistent economic and budgetary problems in nations. Reducing duplication and increasing economies of scale through joint efforts were seen as possible solutions to these problems.

The essence of PAPS is an orderly arrangement of phases and milestones to track performance by participating nations. At the milestone points, a project can be evaluated with a common review process and agreement on the phase can be secured. Both the milestones and the



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phases are aligned with nations' internal acquisition systems, including the Department of Defense system as set down in DoD Directive 5000.1. While PAPS has been implemented successfully, it still depends largely on luck, i.e., that national requirements and schedules line up. This deficiency is now being addressed by the NATO Conventional Armaments Planning System.

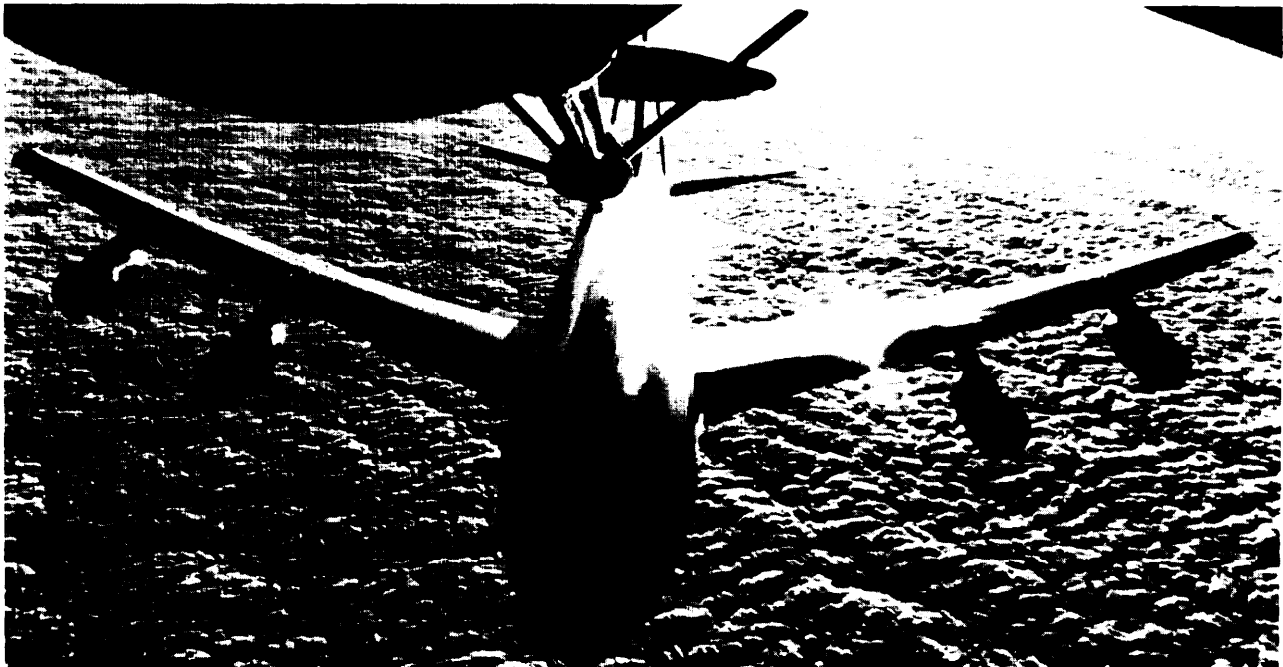
### **NATO Production and Logistics Organizations**

The CNAD and its standing groups do not manage projects directly; rather, project work is the responsibility of the participating countries. These country groupings are temporary, enduring only through the life of the specific project. However, in some cases, the countries may hand over the management to a NATO Production and Logistics organization (NPLO) for long-term implementation. Examples of successful NPLOs are the NATO Hawk Management Organization, the NATO Airborne Early Warning and Control Program Management Organization and the NATO Sidewinder Production and Logistics Organization. These system-oriented bodies may disband on completion of the project. Some, like Hawk and NATO Seasparrow, have continued to handle successive versions of the system.

### ***The Eurogroup***

*In* In 1969, 11 European NATO countries (not including France and Iceland) joined under a flexible structure to harmonize operational concepts and to cooperate in weapons production and logistics. This was not only an effort to find a common solution to the cost escalation of military systems but also a recognition of the American desire for an increased European defense effort. Spain joined when it became a member of NATO in 1985. The Eurogroup (see figure A-3) functions as an informal, noninstitutionalized grouping at the levels of Minister of Defense, NATO Permanent Representative (Ambassador level) and senior advisers on defense issues in the various national delegations to NATO. The chairmanship is rotated and informal administrative support is provided by the British Delegation at NATO Headquarters.

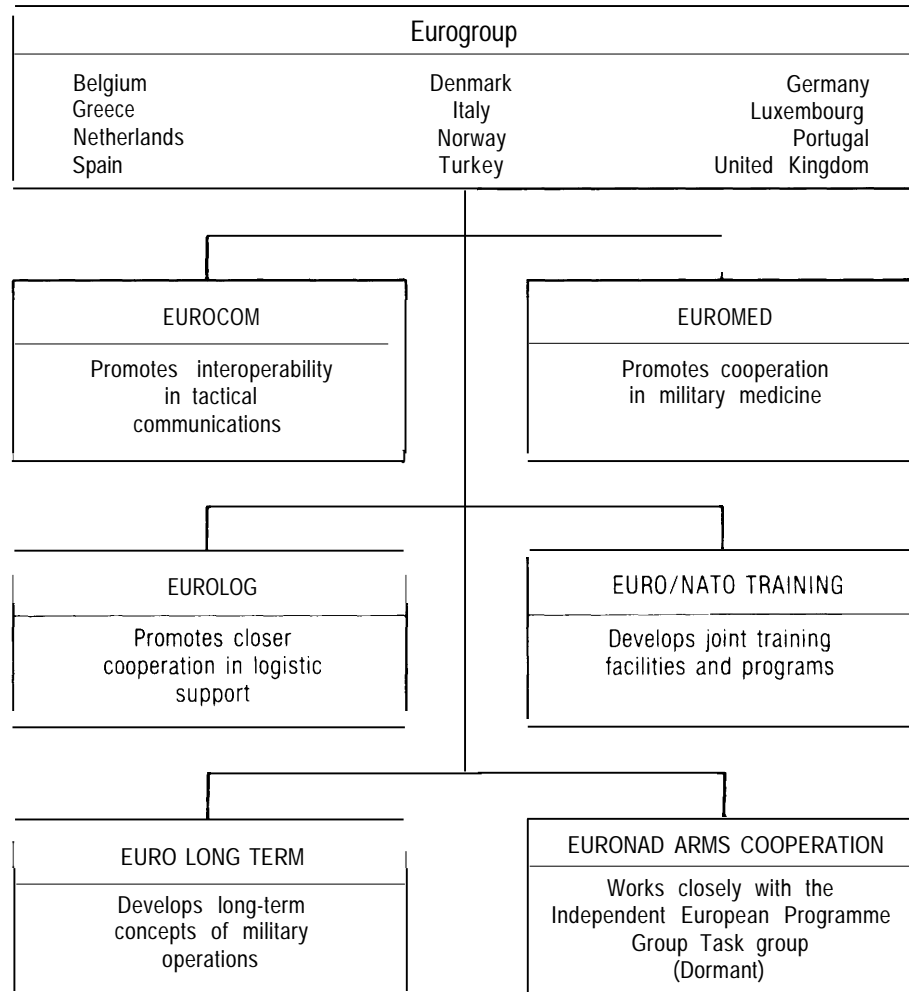
The work of the Eurogroup is carried out by subgroups that operate as ad-hoc committees. The Eurogroup operates within the framework of the NATO integrated military structure, even though it is not legally a part of NATO. It has contributed to NATO defense policy, operational concepts and joint logistic and training activities. The two most significant activities of the Eurogroup have been the European Defense Improvement Program, which involved a special European contribution to NATO Infrastructure of over \$1 billion, and the formulation of Principles of Cooperation on Defense



*Photo credit: U.S. Air Force*

Refueling of a NATO Airborne Early Warning plane, which is based on a Boeing E-3A aircraft, and contains radar technology similar to the U.S. AWACS.

Figure A-3--Eurogroup Organization



SOURCE: Office of Technology Assessment, 1990.

Equipment. The Principles have formed an important part of the policy basis for NATO cooperation in the development and procurement of military equipment. They were formally adopted by the CNAD as NATO Guidelines for Improved Equipment Collaboration.

### ***Independent European Programme Group***

In spite of the importance of its objectives, the Eurogroup did not become a major factor in the processes of European defense integration and armaments cooperation. France, one of the leaders in European defense production, had departed from the NATO integrated military structure a few years before the Eurogroup was formed, and maintained this position in spite of efforts by Eurogroup countries to draw it into their work on armaments cooperation.

In November 1975, the Netherlands Minister of Defense invited the Eurogroup countries to meet in a special Ministerial session in The Hague. They established a new organization, the Independent European Programme Group (IEPG), which could negotiate with the United States on the cooperative development and production of defense equipment. They also offered the French a place within the organization, which the French accepted. The IEPG was created to specialize in armaments cooperation.

In the first meeting of the IEPG, the representatives adopted the following objectives:

- more effective use of defense resources,
- emphasis on standardization and interoperability,
- maintenance of a sound European defense industry and greater attention to technological excellence,
- unity in negotiation with the U.S.

The Group would work to harmonize national planning for replacement of military systems, undertake joint projects, and eliminate duplication of weapons production.

The IEPG set out to do for NATO Europe what NATO had, thus far, not been able to do for its broader membership, that is to take concrete steps toward rationalization of the complex business of defense systems procurement. It proved to be more than the IEPG countries were ready to take on in 1976, The European defense industrial base was fragmented and the United States dominated most weapons fields. The IEPG members focused on bilateral deals with the United States rather than intra-European collaboration,

In 1984, the IEPG met at Ministerial level for the first time and made some important decisions. The Ministers agreed to make a thorough review of operational requirements and a greater effort to harmonize them. They agreed not to duplicate existing developments of other countries. Collaboration was to be carried back into the basic technology in the form of Cooperative Technology Projects. They also launched the European Defense Industry Study (EDIS).

One of the main issues addressed in the EDIS was the lack of a broad-based European defense technology base. The EDIS Group members argued for a broad joint research effort to build such a base, and broad collaboration in development and production keyed to coordinated national requirements.<sup>2</sup> After an initial guarded reaction, the Ministers instructed the IEPG National Armaments Directors to produce an action plan that would form the basis for the gradual evolution of a European armaments market. They also accepted the EDIS recommendation to establish a small permanent secretariat in Lisbon. The IEPG organization is depicted in figure A-4.

Building on the work of a number of ad hoc groups composed of defense officials from all the IEPG member countries, IEPG Panel 3 (Defense Economics and Procedures) presented the Ministers with a comprehensive European Armaments Market Action Plan at their meeting in November 1988 in Luxembourg. In its annex (not made public), the plan lists 40 concrete measures to be implemented in the near-term. Ministers agreed to the measures and committed themselves to review progress periodically. The main features of the plan were:

- . action toward a step-wise buildup of a European arms market,
- removal of obstacles restricting cross-border competition,
- . full exploitation of European resources and research activities, and
- . inclusion of Less-Developed Defense Industries in arms cooperation.

At the same meeting the Ministers specifically agreed to:

- institute measures to increase bidding opportunities for all member-nation companies, including the alignment of bidding and contract procedures,
- designate contact points within national procurement agencies,
- establish an information system for technology transfer, and
- set up a new IEPG Panel on Research and Technology to develop a European Defense Technology Program.

As a result of the work of the new panel and a parallel French initiative, the IEPG Ministers approved, in June 1989, a permanent defense research program modeled on the civilian EUREKA research effort, called the European Cooperative Long-Term Initiative for Defense. It will be funded at 120 million European Currency Units or \$135 million in 1990. Eleven high-priority areas have initially been designated for study: radar, microelectronics, integrated avionics, artificial intelligence, optoelectronics, electric gun, directed-energy weapons in support of Strategic Defense Initiative, advanced helicopter design, smart munitions, identification friend or foe, and military simulation.

Most recently, the IEPG has formed a panel to analyze how Europe's drive to create a unified market by the end of 1992 will affect arms procurement in the 13 IEPG countries. The panel to examine the European Community's (EC) single market program will consider such issues as the EC proposal to standardize national defense tariffs and to conduct oversight of cross-border mergers between large companies.

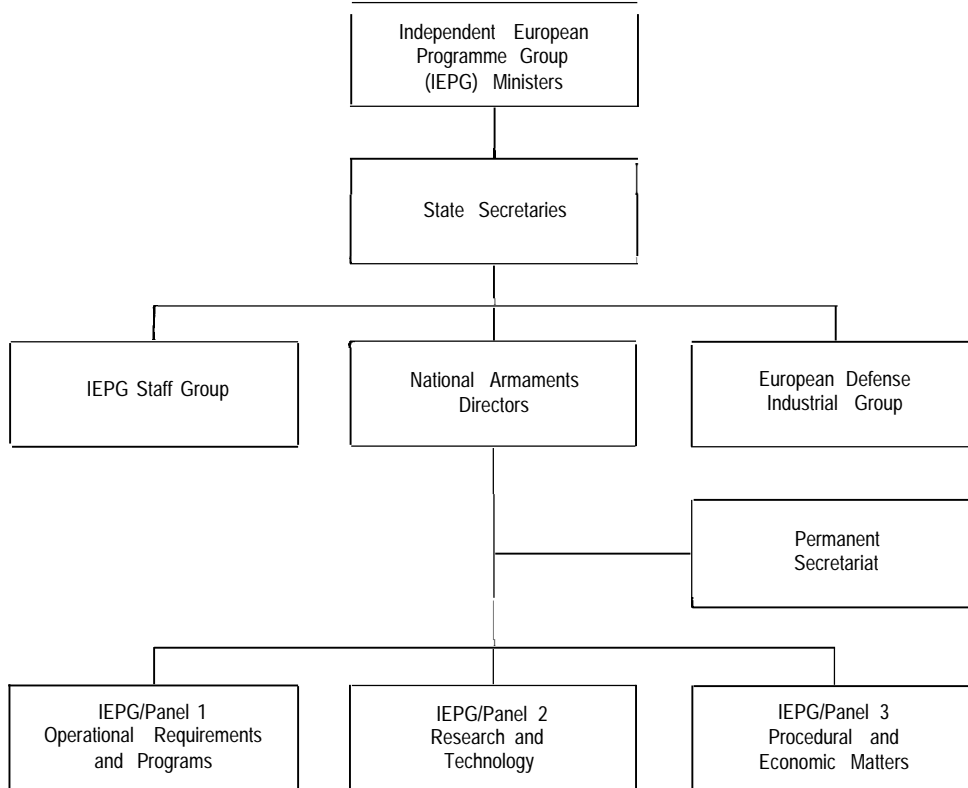
### ***The Western European Union (WEU)***

**In** In March 1948, the Foreign Ministers of Belgium, France, Luxembourg, The Netherlands, and the United Kingdom met in Brussels to sign the treaty that established the WEU. This was followed in 1954 by the Paris Agreements, which brought the Federal Republic of Germany and Italy into the organization. They also created a WEU Council, a Parliamentary Assembly, and an Armaments Committee. The Committee was to provide a focus for cooperation in arms production and procurement. It was never able to compete with the far broader database of the institutions of NATO, or later with the IEPG. *Generally* overshadowed by NATO and the European Community, the WEU went into a long period of dormancy.

In 1987, the Foreign and Defense Ministers of WEU met in Venice to revive the organization and to find anew

<sup>2</sup>Independent European Programme Group, "Towards a Stronger Europe," vols. I and II (Belgium: NATO Headquarters, 1987).

**Figure A-4—Independent European Programme Group (IEPG)**



SOURCE: Office of Technology Assessment, 1990.

role for it as Europe began the process of closing ranks. The reason for relaunching WEU was to establish an organization that could act as an executive committee of the European Allies, promoting integration of the different European national armaments industries.

The function of the WEU as a catalyst and inner forum seems reasonable; but it cannot be expected to play any significant role in the movement toward European defense industrial integration. Its membership does not include all of the players and it lacks the essential connection to unified military planning. Even those who see a larger role for a WEU augmented by newly created agencies concede that its work should be within the NATO framework. The WEU Platform on European

Security Interests, approved in 1987, suggests a defense role for the EC in paragraph 2, which states:

We [the Foreign and Defense Ministers of the Member States of the WEU] recall our commitment to build a European union in accordance with the Single European Act, which we all signed *as* members of the European Community. We are convinced that the construction of an integrated Europe will remain incomplete as long as it does not include security and defense.

References in the Platform to military and armaments cooperation failed to mention the IEPG.