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TOWARDS A EUROPEAN WEAPONS PROCUREMENT PROCESS

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TOWARDS A EUROPEAN WEAPONS PROCUREMENT PROCESS

The shaping of common European requirements for new arms programmes

Keith Hayward

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PREFACE

Changes in the post-Cold War strategic landscape have, among other things, affected WEU countries' Defence Industrial and Technological Base (DITB). The further evolution of WEU, with respect to the recently defined EU reform and that impending in NATO, heightens the importance of solving the problems hampering European armaments cooperation, which directly affects WEU's operational capabilities.

The adoption of mechanisms for shaping common military requirements remains the essential stepping stone. WEU's 'Petersberg tasks' and the mission profiles spurred by NATO's CJTFs form the politico-military backdrop.

Unlike the Cold War scenarios, cooperative security now requires the 'out-of-area' deployment of forces for humanitarian and interposition purposes. The need to develop a multiplicity of weapons systems in such a changed, complex operational environment will in the short term affect the operational capabilities of multinational coalitions. In the longer term, the very survival of the European DITB and the quality of the transatlantic relationship itself might be jeopardized. With constraints on defence budgets and the diseconomies inherent in fragmented national R&D, production and markets, there may no longer be an alternative between European preference and buying 'off the (American) shelf'.

Much must still be done prior to the emergence of a fully fledged CFSP and a European Armaments Agency. Institutions like the EU, WEU, the WEAG/WEAO framework and possibly the JACS can provide specific impulses towards common requirements and an integrated European DITB.

In this *chailot Paper*, Professor Keith Hayward of Staffordshire University analyses the process by which common requirements are formulated, and makes some concrete proposals for achieving this hitherto elusive goal. A first draft of the paper was discussed at a seminar in Paris in October 1996. The Institute believes that the study will make a useful contribution to further debate on the subject.

Guido Lenzi
Paris, June 1997

ABBREVIATIONS

ADV	Air Defence Variant
AFV	Armoured Fighting Vehicle
APC	Armoured Personnel Carrier
AMI	Aeronautica Militare Italiana
ASW	Anti-submarine Warfare
AWACS	Airborne Warning and Control System
C3	Command, Control and Communications
C3I	Command, Control, Communications and Intelligence
CDP	Common Defence Policy
CFSP	Common Foreign and Security Policy
CHODS	Chiefs of Defence Staff
CNAD	Conference of National Armaments Directors
COCO	Co-operative Opportunity Consultation Office
EAA	European Armaments Agency
EDIG	European Defence Industrial Group
EDITB	European defence industrial and technological base
EST	European Staff Targets
EU	European Union
FLA	Future Large Aircraft
IEPG	Independent European Programme Group
IFF	Identification Friend or Foe
IFOR	Implementation Force
JACS	Joint Armaments Cooperation Structure
JSF	Joint Strike Fighter
MDC	McDonnell Douglas Corporation
MEADS	Medium Extended Air Defence System
MRAV	Multi-Role Armoured Vehicle
NADRE	National Armaments Directors Representatives
NADS	National Armaments Directors
NATO	North Atlantic Treaty Organization
NBMR	NATO Basic Military Requirements
NCS	NATO Committee for Standardization
NIAG	NATO Industrial Advisory Group
NSLB	NATO Standardization Liaison Board
NSO	NATO Standardization Organization
ONS	Office of NATO Standardization
PAPS	Periodic Armaments Planning System
R&D	Research and Development
R&TA	Research and Technology Acquisition
RAF	Royal Air Force
RMA	Revolution in Military Affairs
RSI	Rationalization, standardization and interoperability
SFOR	Stabilization Force
UAV	Unmanned Aerial Vehicle
V/STOL	Vertical/Short Take-Off and Landing
WEAG	West European Armaments Group

WEAO
WEU

West European Armaments Organization
Western European Union

SUMMARY

Governments in Europe are under pressure to reduce defence budgets; at the same time, the risks and uncertainties faced by their armed forces have become more varied than they were during the Cold War. Therefore although Europe and its North American allies should clearly continue to cooperate in the security field, for political, technical and economic reasons it will be essential for Europe itself to have a defence industry capable of producing 'state-of-the-art' weaponry. The harmonization of requirements for such weapons is the issue on which this paper focuses.

The first part of the paper deals with the problems of harmonization. The author argues that, even in the days of a clearly defined threat, NATO countries rarely agreed on common requirements. Today, the old difficulties remain, beginning with the problem of countries agreeing on the detail of statements of military requirements. Next are differences in national military doctrine, based on factors such as geography and tradition. Then there is the question of replacement schedules: countries' required in-service dates may vary considerably. Differences in procedure, style and approach to procurement are considered, and, lastly, the influence that commercial factors have on national requirements in arms-producing states.

The following section examines the NATO-European record on common requirements and standardization. The author gives examples of the progress made within NATO, but also the shortcomings and failures, and describes the procedures and bodies that have been created within the Alliance. He points out that NATO procedures have helped develop the habit of cooperation and have led to improved interoperability. Initiatives taken by the European members of NATO and within WEU since the mid-1960s are reviewed, and this is followed by a history of recent *ad hoc* European collaborative procurement experience.

The third part of the paper deals in detail with the central issue: the progress that has been made towards developing a common European weapons procurement system, the challenges to be faced and future prospects. It begins with a description of initiatives taken within the WEU framework, including the decision to consider setting up a European Armaments Agency. The possibility of the four-nation Joint Armaments Cooperation Structure becoming a precursor to this is then examined. This is followed by a discussion of the differences in viewpoint between large and small arms-producing countries. The question of European preference, coupled with inevitable reliance on the United States in some areas, is a further challenge considered. However, the establishment of permanent European forces, it is suggested, could lead to greater consensus, as could industrial and economic forces. Progress will of course be easier in the management of tactical weapons systems procurement, but the WEAG should now take the lead regarding the impact of the so-called 'Revolution in Military Affairs' on future warfare.

In his conclusion, the author suggests that for real progress towards harmonization to be made - and it will necessarily be gradual - there will have to be fundamental agreement on a Common Foreign and Security Policy. However, even before such agreement has been reached, the relevant institutions, which must act in concert, will help take the process forward. If the present situation is to improve, some overall

European procurement concept that results in the armed forces having cost-effective equipment will have to be worked out.

INTRODUCTION

The end of the Cold War should have diminished the importance of military means in international politics and allowed a redirection of national resources away from defence. Yet while defence spending is down and defence firms face tough times, the uncertainty of the post-Cold War security environment has not reduced the need for effective military forces. Indeed, the shift from 'deterrence' to 'use' poses particularly demanding questions for many European military establishments.⁽¹⁾ At the same time, while Europe and its US ally should continue to work together for their mutual security, Europe, for political, technical and economic reasons, should not become too dependent on the United States for its defence. It is therefore essential to 'maintain a modern, efficient and competitive defence industry in Europe as an integral part of its security provisions.'⁽²⁾

The post-Cold War environment has clearly changed the basis of European military planning requirements. It is not easy to determine whether this will be a good or a bad thing for the prospects for formulating common European operational requirements. On the face of things, matters should be worse now that there is no obvious single enemy, that threats are ambiguous and that governments are under pressure rapidly to cut defence costs. As Davis writes, 'National planners are undertaking major reassessments of defence force structures and logistical support networks designed to meet the new challenges of the post-Cold War, while taking into account public sentiment for greater defence cut-backs now that cooperation rather than confrontation with former adversaries has emerged as a defining characteristic of the post-Cold War security planning paradigm.'⁽³⁾

However, the range of post-Cold War threats to European stability have, if anything, become more varied, combined with growing risks from extra-regional sources. Complicating these calculations are views about whether Europe can or should rely on the United States over the long term for key elements of its military response capability. These uncertainties and constraints are concentrating minds on the value of deeper cooperation, including 'revisiting old concepts' such as force specialization and Alliance pooling.⁽⁴⁾ Life was easier when military planners only had to plan for a short war - perhaps only a few days - where the logistic problems of non-standard equipment serviced by short supply lines were a marginal issue. Now that European armies may be called upon to operate in protracted missions over long distances, the penalties for low levels of harmonization and standardization are more severe. The habit of joint planning, training and employment engendered by NATO is matched by the 're-nationalization' of some aspects of allied force structure planning. This is most marked amongst the smaller states, but the British, French and Germans have unilaterally undertaken some form of defence review that has implicitly or explicitly implied changes in force posture and forward equipment planning.

The rapid consolidation of US industry is increasing pressure on the European defence industrial and technological base (EDITB), threatening both its home market and, more immediately its export sales. In order to match the competitiveness of American defence firms, Europe needs a larger, more coherent domestic market as well as companies of a size that can begin to compare with the US giants. Although European firms are slowly beginning to match the rapid consolidation on the other

side of the Atlantic, 'little progress has been made and "Europessimism" seems to have set in'.⁽⁵⁾

If the EDITB is to prosper in a competitive environment still largely shaped by US government and corporate actors, Europe must improve its collective ability efficiently to develop and produce state-of-the-art weapons. This implies reform of market and industrial structures, procurement systems and programme management.⁽⁶⁾ These are not new problems, but they are affecting European states with greater intensity in the mid-1990s and imposing sharper deadlines on policy-makers to harmonize their efforts.

For financial reasons, the temptation to buy state-of-the-art weapons 'off the shelf' from the United States will be hard to resist, the more so as national budgets become even more stretched by monetary union convergence criteria. In the end, the erosion of national R&D programmes may affect military budgets to the extent that even off-the-shelf purchases from the United States are put in jeopardy. European states, singly or collectively, are still more likely than not to fight alongside the United States, and 'allied' forces should be sufficiently compatible and interoperable to fight safely and effectively together. Europeans cannot ignore this, nor fail to recognize that American military requirements are one of the more sensible ways of judging their own armed forces' long-term needs. It is always amazing how the European states seem to struggle to agree on a common requirement, but that they all appear individually to be satisfied by a piece of US equipment. In the final analysis a 'European' defence system has to come to terms with the capability of American firms to deliver what many European armed forces would see as the best product.

More efficiency must therefore be squeezed out of the European defence budget and the European procurement process. Although European weapons collaboration is more than thirty years old and much has been learnt about how to run such programmes, there are still fundamental problems in reconciling efficiency with political factors. Similarly, while there is dialogue, now often formally structured, among European armed forces about what kind of weapons they want, there are still gaps or deficiencies in the process of formulating requirements, setting specifications and implementing a succession of defence programmes to guide European defence production and eventually build a more integrated European defence market.

The harmonization of requirements remains a central issue in the integration of European defence policy, weapons procurement and defence industry, and this paper focuses on this issue. In the first part, the general problems affecting the harmonization and standardization of operational requirements are considered; the second part is an analysis of the NATO and European efforts in this area since the 1950s; finally, the 'state of the art' and current attempts under the WEU umbrella and through other bilateral and multilateral means to improve procedures are examined. Inevitably, the current debate over the European Armaments Agency is addressed, as is the dialectical relationship between European industrial rationalization and procurement reform.

Ultimately, the professional military must be confident that their equipment can stand up to that of the most effective potential enemy. On the other hand, service chiefs are not immune to 'gold plating' legitimate demands or presenting governments with 'wish

lists' of desirable equipment. Budgetary constraints inevitably induce some compromise, but the central theme of this paper is to explore the problem of reconciling the interests of promoting a regional DITB with the needs of the region's armed forces which may have to pay the ultimate penalty for inadequately designed and built equipment. The development of common requirements is central to both issues, but the process has to strike a balance between the two.

THE PROBLEMS OF HARMONIZATION

Confronted by the Warsaw Pact, equipped with Soviet-designed weapons, for several decades NATO struggled to achieve some degree of harmonization and standardization amongst its members. Most progress was made on providing a common infrastructure and logistic support, or when US equipment was procured *ad hoc* by several European countries. Up to at least the late 1980s, the military problems should have been well and easily defined. There were 'out-of-area' issues for the United States and at least two European members of NATO, France and the United Kingdom, but the Central Front in Europe served to define the conventional threat and the type of equipment that would be needed to stave off a Soviet invasion. Yet rarely did NATO states come up with shared requirements. Clearly, putting together a set of common requirements to meet such a well-defined common threat was not so easy as it would seem.

In truth, the military value of full standardization may only have been clear in the event of a protracted war. Few in NATO believed that the kind of conflict envisaged for the Central Front would be long enough for standardization to make a real impact on the fighting. The substantial economic gains were (and still are) to be found before hostilities in terms of reducing procurement costs and easing the strain on defence budgets by increasing production runs and reducing life-cycle costs. In short, increasing the baseline for procurement through harmonization of requirements would help to make collaboration more effective and efficient. These were benefits well worth pursuing if the allies were prepared to accept the 'structures of dependence and interdependence involved'.⁽⁷⁾ In the Cold War, states knew very precisely whom they would be fighting alongside, and where, which may not be the case now. However, with the end of the Cold War harmonization became even more important. The most likely security problems facing NATO/WEU member states are short but potentially highly intensive conflicts with - the Gulf war notwithstanding - high material consumption rates; and protracted 'operations other than war' with higher 'wear and tear' costs, which will increase the premium on small, incremental savings derived from common equipment.

The requirements process

The formulation of national military requirements follows a complex, iterative path. The factors taken into consideration include, *inter alia*, geostrategic perceptions, foreign policy goals, budgetary plans and financial constraints, national force doctrines, equipment design preferences, technological assessment and industrial considerations. There is also a place for consultation with allies and the potential for collaborative ventures. The process is conducted within a complex administrative hierarchy involving a large number of military, technical, official and political actors. It is usually about bargaining to reconcile a range of functional, service-branch, technological, industrial and political interests. It is often highly subjective, not always informed by combat experience, and influenced by varying assessments of tests, exercises and simulation. Although these days there will be a degree of 'purple' (joint-service) thinking (for example, in debates between the relative merits of tanks and attack helicopters), judgements are not always based on objective criteria. In the fight to defend core weapons systems, the needs of less glamorous support functions

may be overlooked. The exotic and unusual concept may be unable to make much headway against entrenched military views about the way operations should be conducted.⁽⁸⁾ Bringing together these differing factors, organizations and interests is not easy at a national level; the difficulties of getting two or more national systems to move in the same direction increase geometrically.

The first stage is essentially political, and starts with an analysis of the state's geostrategic situation and foreign policy, and the general security conditions of the international system, or that part of it that most concerns the nation. This is then translated into generalized objectives. In the case of the most militarily active members of the EU, France and Britain, for example, the list is not very different: defence of the homeland, a role in regional security and a contribution to international stability. These general goals are then used to define specific operational requirements supported by technical analyses of what is possible and matched against what the nation can afford. In outline, all of the European countries go through this sort of process. However, in practice it is neither so rational nor so orderly. Equally, while most European states might (or might not) come up with the same 'motherhood' statements about goals and priorities, the room for differences over means is more than sufficient to create a problem for harmonization.

Although there is some similarity in the way European states (especially the core military countries) tend to view their security priorities, the gap between convergence at this very high level of conceptualization and that needed to inform military procurement can be high. Within that gap there is more than enough potential for serious differences of opinion about what is needed to equip the armed forces of Europe without even including national industrial interests and preferences. The British, French, Germans and Italians still have different views about the role of the United States in European defence, and the degree to which this can or should shape operational requirements. As Walker and Gummett note, where in the past conflicts between national styles were often resolved pragmatically, the closer one gets to crucial decisions over sovereignty and autonomy in defence procurement, the clash of bureaucratic traditions and interests tend to become more important.⁽⁹⁾

The process of stating a requirement as such does not vary that much from state to state. However, once one gets into the detail of formulating national requirements, there are important differences and, as we will be continually reminded, where harmonization is concerned the 'devil is definitely in the detail'.⁽¹⁰⁾ The main distinction is functional: whether an 'off-the-shelf' system is to be procured or a national or collaborative product is to be developed, a military requirement is a formal statement based on a perception of security and military judgements. It usually incorporates the minimum features acceptable to the user and follows a process of internal discussion and negotiation between the military users, defence ministry officials and their technological advisers. In the United Kingdom, the 'Cardinal Points' specification concept invites a relatively broad industrial submission. If a country is to produce its own system, the official requirement will inform the development process, leading to the issuing of specifications and the involvement of industry to define the exact system to be procured. In some cases, albeit rarely in Europe and even less likely in the United States, as its defence industrial base consolidates, this will be the start of a competitive process between firms. In the case of an external purchase, the

requirement will help to determine the choice of weapon from those on offer from outside.

Common military equipment is likely to be acquired only if the customer states feel that they need weapons of a very similar or at least compatible characteristics; that is to say they have the same or complementary military requirements. Key features will relate to performance, although price (or development costs) is an increasingly decisive element, even in the requirements phase. These days, issues such as life-cycle costs, maintainability and reliability, will be built in to the requirement. It is also a tribute to the success of *ad hoc* collaboration as well as economic realism (in Europe for several decades now, and increasingly in the United States) that the requirement/specification process will often quickly embrace the need for foreign partners. This has led to 'quasi-common' European requirements emerging by default on an *ad hoc*, project-driven basis. It is not, however, the most satisfactory way of proceeding.

In short, the requirements and, in due time, the procurement process can be demanding of time and resources, posing difficult managerial and public accountability problems. National procurement staffs - especially in the major arms-producing states - are large and costly. Experience is often expensively bought, as the system has to cope with technical failure and cost escalation. Adding an international dimension adds exponentially to the degree of complexity where differing levels of experience, procurement and military philosophy, national industrial and political interests have to be concerted over an extended period. This can be especially frustrating in the case of projects such as the FLA military transport or some military satellites, where there is little or no chance of a national requirement being met by a national project. The logic of collaboration seems to be overwhelming, but states still cannot agree on timing, numbers or characteristics. Part of the problem may be the absence or weakness of a 'departmental' champion for the piece of equipment. This could be exacerbated if the international programme is likely to compete for funds against more favoured national or even international projects that are perceived to be part of a 'core' military role. 'Orphan' programmes that are nevertheless potentially vital for European defence as a whole clearly need the advocacy and protection of a strong European organization.

Military doctrinal differences

The persistence and depth of national doctrinal preferences and historical bias born of experience have profound implications for the formulation of common requirements. National ideas and views about what is the appropriate mix of features in an item of military equipment emerge very early in the process. As often as not, by the time a project reaches the stage where internationalization might be considered, a draft operational requirement will already have crossed many desks and will already be based on a negotiated consensus. In some cases, the concept might have been subject to technical evaluation by national research establishments.⁽¹¹⁾ If we follow British practice, a general idea of requirement might have been passed on to industry so that companies could anticipate future rounds of contract bids and formal proposals. Internationalizing an operational requirement may require the participants to 'unpick' several national positions. Internationalization must therefore occur at an early stage and be backed by the appropriate range of specialists and experienced procurement

officials. It is also essential that the military input is internationalized as soon as possible. It will also need a means of advertising emerging concepts to guide a transnational industrial input.

Nationally, the requirement process will identify a broad need for a 'tank', 'fighter aircraft' and so on, but clearly the heart of the matter is the conceptual thinking that underpins national views of what that tank or aircraft should do and how it should do it. Here, things get tricky for internationalists. National views of weapons' characteristics may vary considerably, *even when different nations have the same enemy and threat to guide their thinking*. Geographic position is one such factor, but on inspection even this apparently objective factor may have more subjective overtones. Different degrees of proximity to the old Central Front led the United Kingdom and Germany to seek different performance characteristics for fighter aircraft. The British had the time to wait for a threat to its airspace, whereas the Luftwaffe might have faced an attack within minutes of first alert. In the case of bomber aircraft, there have been differing political sensitivities also: the Germans have often hesitated over demands for deep strike aircraft that might imply aggressive intent (the more so as the Cold War began to end). The Royal Navy has traditionally needed to operate globally, or at least in the harshest of oceanic conditions. The Italians have looked to the different conditions of the Mediterranean and the Gulf. This reflects both the countries' respective geographic situation but also differences in current foreign policy goals. The United Kingdom's early conversion to satellite communications and its commitment to an independent, dedicated system (Skynet) also had such 'blue-water' origins (even then, the Royal Navy was long a solitary champion). Italy's insistence on efficient short-range naval air defence systems was due to the short warning times experienced in the Mediterranean theatre of operations.

Other requirements stem from a legacy of tradition, whether part of a national political or more parochial service perspective. Air transportability of equipment may be a requirement for some states that have long-range commitments but not so urgent for others who do not have 'out-of-area' interests. Again, the weight of past procurement and manning constraints may fix certain preferences. For instance, the availability of aircrew also created differences between British and German planners over single or twin-seat configurations for what became the *Tornado*. In general, the different levels of skill and training of professional and conscript armies may also have encouraged the latter to adopt simpler equipment. The considerable differences between British, French and German tank design have been the product of inherited views about the relative merits of armour, mobility and gun characteristics, often stemming from World War II experience!

In the absence of the test of war, these differences become entrenched. However, analysis of tank engagements during the Arab-Israeli wars (especially that of 1973) led to some convergence within NATO, but national preferences continued to affect allied thinking on tank design. Generally, direct test in combat conditions is a greater catalyst for change. The French experience in Operation DESERT STORM, where much of its independently designed and developed equipment was reportedly found wanting in an allied context, was one factor in France's decision to draw closer to NATO's operational thinking and tighten the specifications for future equipment.

An additional factor is the lack of familiarity of many European states with the process of drawing up requirements with a view to development and production. They buy from others who have gone through the process, and are perhaps only concerned with effecting a few modifications to the product or its equipment fit. There is a history of small NATO countries starting out on a programme only to withdraw when the high cost becomes apparent or, by the same token, lose their nerve when cost escalation sets in. Big states do this as well, but small states are the ones most likely to, 'since their total equipment budgets are smaller, and so less flexible, and they are have less experience of development projects and the cost growth associated with them'.⁽¹²⁾ However, they are less likely than the core military states of France, Britain, Germany and Italy to hold strong doctrinal views about weapons characteristics.

Replacement schedules

Although there is often greater flexibility in the timing of replacements than governments or, more often, their armed forces claim, harmonizing in-service dates between several states is a persistent problem. Some states can and will wait for a weapon, while others have a much more pressing need to replace ageing or obsolete equipment. The fact of the matter is that most weapons (certainly those in the American inventory, the B-52 bomber or the multinational *Hawk* air defence system notwithstanding) do not 'wear out', but are subject to the combined imperatives of arms race and industrial pressures for a 'follow-on' system. In some cases, these systems are 'cascaded' to other states.

Economic conditions change, requiring many treasured military requirements to be postponed or cancelled. The tendency of states to act unilaterally in this respect can play havoc with other aspects of the procurement process, especially costs and production entitlements. The easing of arms race pressures may allow rather more flexibility in replacement schedules, with the 'follow-on' imperative having less validity. Equally, as more systems are designed with a series of mid-life updates in mind, there will be more scope for the replacement convoy to move at a pace more acceptable to all members.

If necessary, especially where important national industrial interests are involved, governments will require their armed forces to accept delay. For instance, the Italian F-104 fleet is well beyond its useful life, so the Italian Government is leasing *Tornado* (ADV) fighters while waiting for the *Eurofighter*. Similarly, the in-service date of the original British Staff Target for a new fighter slipped from 1987 (AST 403) to 1992 (the European Combat Aircraft) and then to 2002 (*Eurofighter 2000*). Of course, this sort of slippage may be due to the *force majeure* effects of a protracted collaborative programme, and does not necessarily reflect a change in military conditions, leaving the state to acquire or to lease 'interim' equipment. On the other hand, by 1995 the British and Italian C-130 fleets were virtually worn-out, and the RAF and the AMI could not afford to wait for the FLA as its sole option. As a result, both governments decided to take a number of *Hercules* C-130Js, leaving open the option of future purchases of the FLA. The British will 'lose' their military communications satellites within a relatively fixed period as on-board power sources run out, and are scheduling a 'Skynet 5' for development with or without partners. This concentrates minds wonderfully on replacement schedules, but these cases are relatively rare, and are often a result of unanticipated events (in the case of the British and Italian C-130s, a

huge increase in international aid and relief work). In short, although there are variations in specific cases, a five-year gap between two countries' replacement dates does not appear excessive, especially if they are close to a decade ahead, and as such does not 'appear to be an insuperable barrier to a collaborative effort'.⁽¹³⁾

Much depends, of course, on the perceived likelihood that a country (in Europe especially) will actually be involved in a high-intensity conflict, and that at some future date it will be caught with inadequate equipment. Those that are more likely to be involved in such conflicts may well feel that the more passive countries should leave the formulation of crucial details to them. The United Kingdom, for example, does not generally procure equipment just for peacekeeping, arguing that equipment designed for war can be more readily used for lower level operations than the other way round. While a Bosnian experience might inform certain aspects of requirements (that a wheeled armoured vehicle might be more useful than a tracked one), it should not define core specifications.

Harmonizing budget cycles and procurement philosophies

European states differ widely in their level of defence spending and defence effort. More subtly, states vary in their sensitivity to political and industrial pressures to cut or to maintain defence spending or their support for individual programmes. While all European states now face pressure to reduce defence spending, the immediate effects on defence procurement still vary. At the highest level of policy-making, the British and the German systems have tended to be 'far more structured and systematic than the French', where plans are more 'political' than linked directly to the budgetary cycle. Since the 1980s, virtually every change of French government has led to changes in the procurement programme.⁽¹⁴⁾

One of the main attractions of collaborative procurement was thought to be the stability it brought to weapons development. However, while international status may afford some protection, this has become increasingly threadbare as European states unilaterally cut defence spending. Changes in budget priorities have affected collaborative defence programmes in the past: the collapse of the Anglo-French Variable Geometry combat aircraft programme in the late 1960s was ostensibly due to cuts in the French defence budget.⁽¹⁵⁾ However, during the 1990s, the problem of unilateral budgetary cuts and delays worsened. Progress of both the *Eurofighter* and, to a lesser extent, the *Tiger* and NH-90 helicopter programmes, have been affected by uncertainties caused by German funding crises. In 1996, the French caused similar problems with unilateral cuts to the defence budget, with little or no consultation with France's closest allies and cooperation partners.⁽¹⁶⁾

Delay in moving forward from outline agreement on requirements and draft specifications or subsequent slippage exacerbates the problem of maintaining support for joint weapons. It can provide a good reason for bailing out of a proposed joint venture or it can allow time for national differences to re-emerge in the requirement/specification process. A graphic example of the latter is afforded by the *Rafale/Eurofighter* programmes, where delays in moving forward with the original four-nation programme allowed the production of two competing demonstrators and led to much firmer views about industrial entitlements.⁽¹⁷⁾ The effects of the 1996-97 French and German cuts had a severe impact on the prospects for several

programmes, including the MEADS air defence programme and the *Helios 2/Horus* military satellites, as well as undermining the proposed merger of Aerospatiale's and Daimler Aerospace's missile interests.⁽¹⁸⁾

The French and Germans have attempted bilaterally to improve budgetary stability of large programmes. The December 1996 Franco-German summit appeared to have established a framework agreement covering the funding of all major weapons programmes. This was to have included financial penalties if either government changed its commitment to production numbers or delivery dates.⁽¹⁹⁾ However, in January 1997, delays in French payments to the NH-90 threatened to upset its development schedule and compromise the 2003 delivery date. Officials also backtracked on the December 'agreement', leaving relations between the two countries in much the same state as before.⁽²⁰⁾ If Germany and France cannot reach agreement on this issue, it does not bode well for budgetary cooperation between more European states.

Further downstream in the procurement process, there are also clear differences in procedures, style and approaches between the WEU countries. Some states establish long-term, relatively stable plans covering up to 10 years while others work on an annual cycle, which makes it difficult to concert in detail or to make commitments without protracted internal debate.⁽²¹⁾ In this respect, the German budgetary process and audit requirements are both more open and less flexible than either the British or the French.

There are differences in the power of national legislatures to monitor and control the executive, and this affects the extent to which weapons programmes receive critical attention. In Germany, financial approval for expenditure requires periodic approval by the Bundestag committees, which have considerable autonomy and can delay or block approval for funding for weapons programmes. The French National Assembly and the British House of Commons have only a limited impact on government policy and the administration of procurement. In most cases, although legislatures have some capacity to investigate government actions - especially the financial audit aspects of government - they do not necessarily have the support or technical competence to evaluate complex technical or industrial issues. There is certainly no provision for a concerted effort by the national legislatures of collaborative partners to investigate programmes or even to share knowledge on a regular or systematic basis. There is, of course, little provision for detailed oversight at the European level, although the WEU Assembly may have some political, although not budgetary contribution to make.

More generally, there is a tension between cost control, and the consequent search for efficiency, and some of the fundamental premises of international weapons procurement. The drive for value-for-money in national procurement, added to the shrinking market for defence goods, is reinforcing the trend towards international industrial structures, which are efficient. At a more technical level, among European countries there are differences in methodology for scheduling work and the use of management tools. Reconciling these can take time as compromises are sought and procedures agreed by national authorities.⁽²²⁾ Past collaboration, however, has led to a pool of experience shared by national procurement authorities. The Germans, for example, have learned much about the management and control of large-scale defence programmes from working with their French and British counterparts.

There is also some convergence on the wider principles of industrial competition. The French have begun to introduce a tougher procurement regime that promises a more competitive approach to contracting, moving the French closer to the German and British positions on competition and cost-effective procurement.⁽²³⁾ On the other hand, the British Government's visceral opposition to even a hint that industrial policy issues should guide procurement choices has lessened as it has responded to corporate and parliamentary pressure on the subject.⁽²⁴⁾ However, there is still some tension between the two main European industrial and technological powers on procurement practice, especially in respect of European preference. The French believe that different economic and political blocs will necessarily be in a state of confrontation, and favours the protection of 'local' capabilities for strategic and economic reasons. The British are happier with a more open Atlantic market, the primacy of the needs of the armed forces and a dynamic motivated by 'the logic of the market and pragmatism on political issues'.⁽²⁵⁾ The British, supported by the Dutch and Germans, believe that time is on their side as the pressure on national defence budgets continues to increase and as industry moves towards a more competitive stance.⁽²⁶⁾ Nevertheless, the British should not be over-sanguine about the 'tide of history' running in their favour. They will still have to persuade their colleagues fully to embrace competition; they may also have to concede more ground on European preference.

With governments of EU countries increasingly pressed to curb public spending and address other national priorities, the defence budget is an easy target for cuts. This will get worse as many states try to achieve the Currency Union convergence criteria. However, the cumulative effect of national actions will be to undermine Europe's collective defence capability and the stability of collaborative weapons procurement. The idea of a 'European' defence budget lies a long way down the CFSP track - perhaps not until there is a common defence policy. But establishing a common weapons procurement process that can ensure a smooth conversion of common operational requirements into defined programmes and fully optimizes European defence resources, in any case requires more consultation and strategic planning of defence budgets.

Industrial 'entitlements'

Where states are also producers, commercial factors also influence views about requirements. National military requirements may be compromised so as to maximize exports of equipment with less demanding specifications. While most arms-producing states are now more sensitive to export sales and are willing to make some compromises to this effect, not all European states are prepared to see this as a vital factor in the requirements process. In collaborative weapons programmes, claims to industrial 'entitlements' and the politics of work-sharing based on *juste retour* have been a pernicious element in the requirements process and have grown exponentially with the numbers of states involved in a project. Similarly, over-optimistic production forecasts have influenced requirements and distorted work-sharing arrangements.

Although the problem of industrial entitlements affects more downstream procurement issues than the harmonization of operational requirements, where national industries and armed forces are involved interactively in the procurement process, the question of industrial entitlements can affect the process. The

requirements process is likely to anticipate national technological and industrial interests by stressing those attributes in the proposed weapon system most suited to the capabilities of domestic arms manufacturers. This may become a cumulative process in which national doctrinal preferences help to determine the scope and direction of public and private R&D investments which in turn reinforces national military habits.

THE NATO-EUROPEAN RECORD

The NATO experience

NATO has struggled with the arms standardization and common requirements issue for most of its history. NATO cannot override national sovereignty, and has a fundamental problem in trying to harmonize and standardize equipment. As Webb put it, 'Final decisions on almost all equipment acquisition rest with member governments acting individually (or in informal groups). NATO collectively provides useful forums for discussion and coordination but not central direction.'⁽²⁷⁾ On the other hand, there is no European body to match the military and procurement expertise of either the main national or NATO-based agencies. NATO has made some progress towards standardization in a few areas. NATO adopted a common infantry cartridge in 1954, and a common infrastructure emerged during the first two decades of allied cooperation. On the other hand, NATO never managed to agree on specifications for an IFF system for military aircraft during thirty years of the Cold War.⁽²⁸⁾ The United States has regularly preached the virtues of standardization based on European states buying its equipment. Some of this has been facilitated by US-led joint production programmes. However, throughout most of NATO's first decade, information about buying intentions and dates was also absent, and opportunities for standardization could be lost through lack of information.

In 1959, NATO tried to tackle the problem of information exchange with the NATO Basic Military Requirements (NBMR) scheme. Fifty statements of basic requirements were agreed under this system, but few resulted directly in production, although development of the G-91 ground attack and the *Harrier* V/STOL aircraft was fostered by the NBMR environment. Even when members had a requirement that might be satisfied by the NBMR design, and signed up for preliminary development, many states still preferred to buy something else, especially as, unlike later collaborative programmes, penalties for withdrawal were low or non-existent.⁽²⁹⁾

The growing competence of national defence industries in Europe, helped partly by US-led co-production programmes and, more important, the growth of separate collaborative projects in the 1960s, added extra complications to NATO's search for harmonization. European armaments collaboration brought a powerful determination to defend European industry against US firms and to 'ring-fence' the amount of American weapons bought by European countries. In 1966, the NBMR scheme was abandoned, and the NATO Armaments Committee that had overseen the process of harmonization was replaced by the Conference of National Armaments Directors (CNAD) which was to meet (and still does) twice a year. Their 'executive' functions were supported by Brussels-based representatives (NADREPs). The CNAD 'system' has since worked to coordinate the political, economic and technical aspects of NATO forces' procurement. It oversees cooperative ventures designated as 'NATO Projects' through specialized committees. Generally, CNAD has worked to generate an alliance-wide awareness of national intentions and projects, and to create a simple, flexible arrangement within which NATO states wishing to cooperate could be assisted so to do. By 1981, the CNAD system possessed six main subgroups, and was assisted by the formation of the NATO Industrial Advisory Group (NIAG).

However, the CNAD process did little to encourage overall defence industrial rationalization or to solve the generalized question of requirements harmonization. It was essentially advisory and consultative, and until the early 1970s CNAD rarely looked ahead for more than six years, and as a result major weapons systems could be well into development before the CNAD considered them. From the mid-1970s, the CNAD outlook expanded, with inputs from the Independent European Programme Group (IEPG) and later NIAG. Matters were further improved with the creation of the NATO Armaments Planning Review and informal discussions between the four core arms producers - the United States, United Kingdom, France and Germany - prior to full CNAD meetings. It was a reasonably effective information exchange and it helped to cultivate a 'collaborative' climate within the Alliance. However, even when projects received a 'NATO' designation, it added little significance; it did not ensure Alliance-wide procurement; nor did it allow non-participants to ask serious questions about a project's value or relevance to the collective defence.

NATO harmonization in the 1980s

In the mid-1970s, under pressure from the United States, NATO again began to address the standardization issue as a means of increasing the cost-effectiveness of NATO preparedness. For its part, the United States made some gestures towards the 'two-way street' by opening up test and evaluation to more non-American projects, and through the 1986 Nunn Amendment. The Nunn Amendment appeared to offer a way of sharing the costs and the industrial and technical benefits of weapons development without involving substantial transfers of US technology. It also intended to get collective action under way early in the development process, which might generate common operational requirements.⁽³⁰⁾ But by the early 1990s, the transatlantic collaborative aspirations of the Nunn system, as well as the relatively few joint programmes, had been undermined by political and industrial interests on both sides of the Atlantic. On the one hand, the United States, especially Congress and a reluctant military establishment, were loath to make the concessions on participation and work-sharing that would satisfy the Europeans. On the other, the Europeans were determined to protect expensively acquired industrial assets, raising barriers to US participation. Both sides would sign agreements to collaborate, only to pull out later.⁽³¹⁾

NATO's main effort in the 1980s to improve the prospects for cooperation centred on the Periodic Armaments Planning System (PAPS). The intention of PAPS was to introduce an international element into the requirements process at an early stage before national preferences had firmed up and compromises had become harder to achieve. The key to PAPS was the timetabling of projects based on harmonized military requirements in order to reduce the risk of different national time scales inhibiting cooperation. The system was modelled on US procedures and comprised seven stages, from Pre-feasibility through Development and Production to Retirement. Each stage contained a milestone decision point where agreement was sought between as many alliance partners as possible. The lead time was between fifteen and twenty years. The starting point was an assessment of the enemy's likely capabilities given the trend in technology; how effective existing allied weapons would be over the same timescale; and the additional capabilities that would be needed in order to match those of the enemy. The technological and professional judgements involved were fed into the process by the Military Committee of NATO

and the answers went up to CNAD. The CNAD would be more closely involved in subsequent decision points, leading to an agreement on an Outline NATO Staff Target. At this juncture, NIAG generated pre-feasibility studies which led to the NATO Staff Target and CNAD agreement on a future weapon's requirement. From this point, the system moved into the design and development phases, which may or not have been competitive. At this stage industrial and technological bargaining would take on a much harder and more urgent form. PAPS was followed in 1983 by the creation of the NATO Standardization Group, which reviews all standardization activities aimed at detecting gaps and overlaps.

Rationalization, standardization and interoperability (RSI) remains an important and difficult question for NATO and was a key item on the agenda for the December 1996 meeting of defence ministers. Further efforts to improve NATO standardization through a formalized set of procedures rather than relying on the goodwill of members were made through the creation of a NATO Standardization Organization (NSO) in January 1995. The NSO comprises three main elements: the NATO Committee for Standardization (NCS), composed of all sixteen members and reporting to the North Atlantic Council; the NATO Standardization Liaison Board (NSLB), comprising civil and military officials empowered to make recommendations; and the Office of NATO Standardization (ONS) which collates material and frames documents. The ONS is tasked to develop objectives tied to agreed NATO force goals. The NSO is more structured and far-reaching than previous attempts. It defines four levels of standardization - commonality (procedures), interchangeability (ammunition), interoperability (between communication systems), and compatibility (for non-interference of sensor systems). NATO officials hope that by matching RSI more closely to force goals it will circumvent changes of national policy (especially in the United States) that could undermine joint purchases and collaborative agreements. The intention is to build up a more binding set of obligations.⁽³²⁾

In general, NATO set of procedures and routines have encouraged the habit of collective examination of requirements and replacement schedules. Interoperability has improved from the 1980s when war games demonstrated major deficiencies in NATO armies' ability to fight together. PAPS and other mechanisms such as the NSO procedures allow for a much earlier and systematic consideration of common requirements and other standardization issues. The NATO machinery has a 'transparency' that allows its members to see if there are opportunities for cooperation. However, NATO as an institution is still a largely 'passive' actor in the process of formulating common operational requirements. Although officials both civil and military have taken a more aggressive approach to the process, at heart it reports rather than stimulates action and interest.⁽³³⁾ The continual tension between the United States and Europe over industrial and technological issues hinders NATO's ability to act effectively as a focus for common requirements or as a stimulus for joint programmes.⁽³⁴⁾

The European input

Until the mid-1960s, Europe's contribution to the harmonization and standardization issues was largely through NATO. However, the FINABEL group, linking the army staffs of France, Germany, Italy and the Benelux countries, was recognized as a

regional grouping within the Alliance in 1954 and has continued to make a useful contribution to the formation of a common European perspective on ground forces' equipment.⁽³⁵⁾ FINABEL focused on cooperation in land systems, initially reflecting the common geographic situation of the founder states. The FINABEL group has discussed, *inter alia*, tactical and logistic issues, general operational requirements, training and an exchange of classified information. It is not responsible for joint programmes, and outcomes are the product of unanimous decisions. However, its views on requirements may inform national procedures for drawing up specifications and it acts as an early clearing house for the promotion of joint ventures. Although limited to a few European states and lacking real authority, the FINABEL formula has had a modest success in developing a habit of consultation among army chiefs of staff and could provide a useful prototype for a more authoritative and generalized organization for all WEU armed forces.⁽³⁶⁾

A more generalized European input into the NATO system came with the formation of Eurogroup in 1968 (although the by then largely dormant WEU had established a Permanent Armaments Committee in 1955) to generate a distinctly European view on Alliance policy. Over time, Eurogroup formed several study groups including EUROLONGTERM and EURONAD. EURONAD was the regular meeting of national armaments directors which discussed common procurement and development options. EUROLONGTERM was charged with the task of elaborating long-term common operational requirements and formulating outline specifications - 'very important objectives, but at the same time very difficult to achieve'.⁽³⁷⁾ EUROLONGTERM helped in the process of harmonizing replacement schedules for the European military, and reflected the need to achieve a consensus on weapons characteristics at a very early stage in the weapons procurement process before national attitudes and interests have had time to solidify. Most of the Eurogroup subcommittees were placed under WEU control in 1993 and form part of current discussions about the future organization of a European procurement system. As we will consider below, an improved or enhanced EUROLONGTERM could play a key role in establishing an authoritative forum for the formulation of European common requirements.

The EURONAD function was absorbed by the IEPG in 1976. The IEPG aimed to foster cooperation on specifically European projects and reflected the determination on the part of European NATO countries to foster a more distinct European defence identity. It was not formally made part of NATO, partly to facilitate participation by the French. Although welcomed by the US Government as a step towards improving Alliance efficiency, its main aim was to encourage European solidarity in arms development and production. Its brief included harmonization of replacement cycles, the sponsorship of joint ventures and the elimination of duplication in European armaments.

IEPG also agreed in 1984 to investigate the possibility of creating a European Defence Procurement Secretariat as a first stage towards a permanent procurement organization. However, neither Britain nor France was eager to promote the emergence a strong European procurement structure. Although France hoped that such an organization would boost European arms purchases, it was reluctant to transfer any real authority for procurement. The British had similar concerns over any loss of sovereignty, but were even more worried lest it became a forum for anti-

American sentiment. Other problems emerged as the smaller states began to look upon it and the IEPG as a means of increasing their industrial share of major programmes.

By the early 1980s, the IEPG had turned to more modest tasks, such as seeking agreement on common components and generally encouraging European defence industrial cooperation. Nevertheless, this approach produced a significant number of harmonized European staff targets and introduced a range of Collaborative Technology Programmes aimed at validating new technologies with full-scale engineering models. In 1990, the IEPG was supplemented by the European Defence Industrial Group (EDIG), which provided a direct industrial input into armaments policy deliberations. Although it generated few substantive results, the 1987 Vredeling Report Action Plan to improve the competitiveness of the European defence industries provided a timely and accurate analysis of the problems facing the EDIG. The IEPG also made some efforts to encourage harmonization through the publication of national contracts bulletins. Overall, having no legal standing and unable to bind its members, the IEPG lacked teeth and the implementation of decisions remained in the hands of national defence ministries.⁽³⁸⁾

In 1992, European defence ministers decided to transfer the IEPG's functions to WEU, in the Western European Armaments Group (WEAG). Turkey, Norway and Denmark, although not full members of WEU, have equal status within WEAG. The creation of WEAG was designed to improve armaments cooperation and to formalize the existing structure of cooperation between the European defence ministers and National Armaments Directors. WEAG inherited directly the original IEPG terms of reference, including the search for a more efficient use of resources through increased harmonization of armaments. WEAG was not just 'son of IEPG', as its formal link to the WEU increased its salience and enhanced its value as a working institution, and as part of the formal WEU machinery.⁽³⁹⁾ As the main focus for the WEU's common procurement efforts, WEAG is at the heart of progress towards common thinking on European operational requirements and procurement generally.

The collaborative experience

The institutional context of European armaments cooperation is underpinned, and in many respects anticipated, by the long and extensive experience of *ad hoc* European collaborative procurement dating back to the mid-1950s. By the mid-1960s, the cost of modern weapons, especially aircraft and missile, had led France, Britain and Germany into collaboratively designed and developed military equipment. The states concerned would jointly identify a broadly based set of common requirements, set specifications and allocate work shares. These were usually the result of tough and protracted negotiations shaped as much by industrial needs as by genuine convergence on the part of military establishments. In some cases the military found themselves acquiring equipment they did not like and/or weapons that did not entirely fit their perception of military needs. Although collaboration helped to bring replacement schedules into line, it did not necessarily lead to convergence. Equally, the relative success of collaboration tended to strengthen national industries and intensify the industrial and technological interests that governments would seek to promote and defend in subsequent programmes. *Ad hoc* industrial collaboration rarely addressed the core issue of planning systematically for the common defence moving

towards common tactical doctrines and operating procedures which would help to improve the continuity of European arms procurement.

In many respects, collaborative weapons development has been the main vehicle ensuring the survival of the EDITB. The process of assembling a collaborative team and maintaining the resulting coalition is a demanding political and managerial exercise. Even when there is a convergence of general requirement and replacement schedules, confirming the detail of common requirements, especially the more complex and costly systems, is the most problematic aspect of the exercise. When industrial interests are also taken into account, the result could be disastrous for a collaborative effort. The *Eurofighter*, for example, was based on the need for a fighter-bomber replacement for four states - France, the United Kingdom, Germany and Italy. Various national concepts were considered throughout the 1970s and early 1980s, but, significantly, international collaboration was regarded as essential on economic grounds for initiating development. For industrial and technological reasons, a European grouping was the favoured option on the part of all, including the British. By April 1980, the four leading airframe companies had announced a basic agreement on a single-seat, twin-engined, delta-winged aircraft with a prototype.

Five years later, Europe was saddled with two competing projects, the quadripartite *Eurofighter* and the French *Rafale*. From 1980, it took over three years for the governments to reach agreement on a common outline requirement. In 1984, key differences over the aircraft's specification were still apparent, with the French emphasizing the ground attack role while the British and Germans stressed their need for a fighter. The French also wanted it to be able to operate from aircraft carriers. In the spring of 1985, the governments revealed an agreed outline specification which split the difference between the two requirements. By then, however, irreconcilable differences generated by industrial disputes between France and the United Kingdom over prime contractorship led the French to abandon the multilateral programme. Once launched, there were a succession of disputes between the Germans and the British over *Eurofighter* equipment specifications and difficulties (mainly on the German side) over funding development and production. Although the French Government has remained committed to the *Rafale*, rising costs and falling defence budgets have delayed the programme. With neither aircraft due to reach service before 2000, both have become vulnerable to political controversy on cost-effectiveness grounds.

The *Tiger* attack helicopter, despite a very powerful political impetus behind co-operation from the French and German Governments, was subject to a similarly troubled and protracted gestation. Discussions on a joint programme began in the late 1970s, but differences between French and German requirements delayed formal commitment until 1983. Even then, in order to reconcile the different requirements of the French and German armies, the industrial consortium was required to produce a common airframe with three separate weapons and equipment fits. Eventually, in 1987, rising costs induced a simplified programme with more or less the same helicopter to be procured by both countries. The *Tiger* will not now be in service until after the year 2000.

The *Horizon* frigate programme followed the failure of the NATO Frigate for the 1990s (NFR-90), which ran into trouble primarily because it 'proved impracticable to

harmonize national requirements and time scales between so many partner nations'.⁽⁴⁰⁾ The experience was not entirely wasted and the lessons learned as a result of the NFR-90 failure helped to shape the tri-nation *Horizon* programme on the basis of a single Tripartite Staff Target. However, there were sharp differences between the partners over basic design characteristics. Britain's Royal Navy conceived of operations in all sea states and conditions, while the Italians focused mainly on Mediterranean conditions. Although the French were closer to UK thinking, they were prepared to accept some compromises on specification, while the British would not be moved. In the event, high-level political intervention was required to break the log-jam and establish a common specification.⁽⁴¹⁾ Difficulties then arose when strict military requirements were overlaid with national economic and industrial considerations. The Italians, for example, increased their proposed order to six from two and two options, apparently in order to expand their work-share, although the Italian Navy may only need three.

In the event, while the ship platform and much of its equipment will be common, certain systems will be procured separately by each country for fitting to its own ships. For instance, the main missile defence system was originally to have been developed as a family of missiles. The British until 1996 considered that the Principal Anti-Air Missile System (PAAMS) did not meet its requirements. The Royal Navy had insisted on a longer-range missile to defend squadrons of naval vessels and convoys. These differences affected work on the common Combat Management System, one of the key 'critical path' features of the whole programme, and increased the difficulty of the management task.⁽⁴²⁾ The programme is now four years behind schedule, and the delay threatened to lead to the British opting out of the programme.⁽⁴³⁾ In the end, the three countries agreed to adopt the PAAMS, with two variants, whereas non-common equipments still include torpedoes, torpedo defence systems, offensive missiles and communications intercept systems.⁽⁴⁴⁾

In general, the management of collaborative programmes has improved, although there is still considerable room for increased efficiency. A process of trial and error has led to the creation of joint procurement agencies (often under NATO auspices) that have assumed responsibility on behalf of the contributing governments for controlling the industrial consortiums responsible for development and production. National governments are also increasingly concerned to secure value for money in joint weapons procurement. But despite some progress at this level, the evolution of international procurement systems has been outpaced by structural developments at the industrial level. The 'routinization' of collaboration, especially in Europe, and the emergence of the transnational defence industrial enterprise is not yet matched fully by the provision of effective transnational procurement management systems.

Collaborative weapons development illustrates the perennial problems of reconciling industrial and technological interests and cost-effective procurement. However, the experience has encouraged the evolution of a collaborative culture, although the resulting partnerships have not necessarily been consistent with a coherent European industrial structure. Joint ventures can emerge on an *ad hoc* basis without the intervention of permanent agencies designed to broker joint operational requirements or oversee the procurement process through to the delivery of operational equipment. However, with ever tighter budgets and increasing pressure to improve the cost-

effectiveness of international programmes, the need for more coherent practices on both the supply and demand side of European weapons procurement is evident.

TOWARDS A COMMON EUROPEAN WEAPONS PROCUREMENT SYSTEM

WEAG and WEAO

During the 1990s, the main focus for European procurement cooperation has been WEAG. The WEAG operates under the NADs, who meet twice a year to review the work of a staff group consisting of the Permanent Representatives of the NADs in Brussels. The day-to-day activities of the WEAG is undertaken by three Panels. Panel I is the centre of WEAG's activities in the harmonization area, developing, for example, Feasibility Studies and European Staff Requirements. Panels II and III are tasked to handle Defence Research and Technological Acquisition issues and defence economics and armaments cooperation procedures respectively. Panel II has been responsible for overseeing the European Cooperative Long-term Initiative for Defence (EUCLID) programme and other research structures. Panel III is especially active in encouraging an open European defence market. As a result of this and other bilateral initiatives, European states regularly publish procurement opportunities so that foreign companies can submit proposals for national purchases of defence goods and services.

As the focus of WEAG's harmonization efforts, Panel I has a far-ranging brief, supported by several subgroups and special task forces. Every year, usually in June, it compares the WEAG nations' armaments replacement schedules, which are collated and presented in an annual document. Where cooperation is felt to be possible, subgroups involving the participating countries are tasked to develop Feasibility Studies and European Staff Targets (EST) as a basis for development and production programmes. Project groups are then established to oversee the actual development and production. However, it is often the case that information supplied by the members has been incomplete and lacked precision. Further progress in establishing a solid set of replacement schedules will need a more accurate and authoritative representation of national needs and timings. Matching different national procurement and funding procedures can also create many problems and is a major source of delay.⁽⁴⁵⁾ The more detailed work of Panel I is undertaken by subgroups, reporting to the NADs to present recommendations for action. The subgroups are responsible for putting together a Mission Need Document as the first step in identifying a common requirement in general terms which might lead to a pre-feasibility study, an Outline European Staff Target and, perhaps, a full Feasibility Study. After completing this phase, the European chiefs of staff may then issue a European Staff Requirement leading to the Project Definition stage.

At all stages in the process, special efforts are made to encourage cooperation between national long-term operational requirements staff and WEAG. A Cooperative Opportunity Consultation Office (COCO) provides information to nations looking for collaborative partners for specific projects. As of 1996, seven projects came under its ambit, including 'smart' artillery ammunition and the *Trigat* anti-tank missile. Another eighteen are under discussion as potential collaborative ventures, including the FLA military transport. Panel I has also been responsible for liaison with the CNAD.⁽⁴⁶⁾

Panel 1 has played a key role in the development of a common approach to European weapons procurement and Panel 2 has made similarly useful contributions to the harmonization of R&D. Panel 3, together with inputs from the EDIG, has provided a high-level forum for considering industrial questions. It has limitations, especially in respect of R&TA issues, where its members states (and companies) are reluctant to concede full authority over sensitive technologies and research funding to a European body. WEAG's industrial role has been similarly affected by differing national views about the nature of the European defence market, the scope of EU competence in the field and the degree of importance to be attached to *juste retour*.

There is, however, a clear need for a permanent, high-level military structure capable of discussing authoritatively common operational requirements at a sufficiently early stage in the process. Generally, the collective military input will have to be strengthened and given more authority at an earlier stage. EUROLONGTERM, although useful in a broad sense, has been regarded as a secondary arena for intergovernmental and military discussions, and does not formally represent the national military staffs.⁽⁴⁷⁾

Given the creation of multinational forces, the current absence of identifiable threats and the high pace of technological developments, the need for harmonized and standardized equipment remains essential. European chiefs of staff must be encouraged to discuss this issue and develop joint operational concepts. As Willem van Eekelen observes, 'a dialogue between WEAG and the operational users should be developed and progress [made] towards a common definition of operational requirements, so that European armaments co-operation could be initiated further upstream.'⁽⁴⁸⁾ The military chiefs, especially the Chiefs of Defence Staff (CHODS), have to define these requirements and submit them for political approval. They have only since late 1992 begun to meet on a regular basis, and discussion of requirements questions would entail greater frequency of meetings and the dedication of more senior staff, on a continual basis, to the WEAG structures. WEU could provide a formal focus for this activity, with a subgroup responsible for matching force needs to future military situations, evaluating operational requirements for standardization and interoperability at the multinational level, and proposing common operational specifications for the requisite equipment. In 1995, the Secretary-General of WEU urged that EUROLONGTERM had to be given more formal responsibilities to act as a link between the WEAG structure and the operational users, in order to generate common military requirements. In particular, EUROLONGTERM membership, currently lieutenant-colonel level, had to be raised, ideally to chief of staff level.

However, in the absence of agreement at the highest political level, WEAG's work is inevitably constrained by divergent national interests and procedures, and with technical and administrative matters that cause delay. In short, for the procedures to work effectively, there has to be a coherent programme and long-term political guidance, the equivalent at a European level of a national defence white paper.⁽⁴⁹⁾ In theory, this and harmonizing other procurement functions could be the responsibility of a European Armaments Agency (EAA). The Maastricht Treaty made specific reference to the desirability of creating an EAA as a potential contribution to improving Europe's military independence, as an adjunct to the development of the CFSP. An EAA should lead to greater efficiency in common procurement and would help in the process of re-structuring and rationalizing the EDITB. It should also help

to reduce the delays associated with the launch and development of common programmes. Finally, and central to this paper, it should improve the operational performance and interoperability of European military equipment by encouraging common requirements, standards, specifications, development methods and means of production.

In June 1992, the Petersberg Declaration called upon the WEU and IEPG to explore the role and possible functions of an EAA. In March 1993, the NADs decided to create an *ad hoc* working group of the WEAG to study all aspects of an EAA. Its remit was to examine possible missions and legal terms of reference, the financial implications, and its relationship with EU and NATO. In its first report, of September 1993, it concluded that conditions did not exist for the creation of an agency capable of conducting the full range of procurement activities on behalf of WEAG countries' governments. There was, however, some potential for individual areas of improvement to the process through the creation of a body with some legal standing under the Brussels Treaty. Later work undertaken for the NADs during 1994 filled out some of the details for a more limited body, but overall, the results of this activity were ambiguous and constrained by the need to reconcile the different perspectives of all thirteen WEAG member countries. However, with discussions stalemated, the Noordwijk WEU Ministerial of November 1994 decided to postpone indefinitely plans to establish an EAA.

However, in March 1995 the NADs agreed to create the Western European Armaments Organization (WEAO) as an executive organ of WEAG and a subsidiary body of the WEU.⁽⁵⁰⁾ In the first instance, the WEAO will be responsible for managing the EUCLID programme and exploring the scope for common development and testing activities, as well as providing an information service to support WEAG's efforts, especially those aimed at promoting a common armaments policy. The WEU Council also signed the THALES (Technology Arrangements for Laboratories for European Defence Science) to facilitate government-funded joint research programmes and information exchanges. THALES is aimed at supporting technology developments in key areas of interest to defence agencies and defence industries of the WEAG nations. Its main objective is to improve 'the commonality and interoperability between equipment operated by their defence forces'.⁽⁵¹⁾

As the WEAG/WEAO framework evolves, it could begin to develop the full range of procurement responsibilities that a European Armaments Agency would *de jure* be required to have. This will entail need for an 'intelligent customer' capacity to feed in long-term technological assessments less tainted by national industrial preferences and a similar capability to evaluate industrial answers to requirements. The hard work of national staffs could be contracted out to existing agencies (or better still, a European agency), but the final assessment would need the judgements of a central technical and operational staff. As such it will have to have a complementary body responsible for working out common requirements. This would bring together representatives of the national chiefs of staff and their counterparts responsible for the design and production of armaments. The putative European agency would 'gradually acquire its own identity and formulate proposals, facilitate negotiations and in certain cases exert a real influence on the issues with which it deals'.⁽⁵²⁾ This could imply the development of an impressive bureaucratic capacity. However, it is hard to imagine, in the short term, a European agency of the scale and scope of the UK MOD's

Procurement Agency or the French DGA, with their associated civilian and military staffs and scientists.⁽⁵³⁾

In short, the WEAG/WEAO framework offers an umbrella for a series of loosely linked European procurement functions. It should also have sufficient flexibility to allow for bilateral and multilateral initiatives outside the formal WEU context. For states wishing to establish European Project Offices for major projects, 'there should be separate subsidiary bodies outside the WEAO operating under their own charters'.⁽⁵⁴⁾ This could also include the Joint Armaments Cooperation Structure (JACS) formally established in January 1997 to act as a joint programme office on behalf of France, Germany, the United Kingdom and Italy.

The Joint Armaments Cooperation Structure (JACS)

The JACS philosophy represents an attempt to break out of old patterns of *juste retour*, to create common procurement practices and to integrate programme offices along functional lines. Its members are pledged to obtaining greater cost-effectiveness by rationalizing procurement procedures, improving competitiveness of their industry by lowering costs and replacing the principle of *juste retour* with a more flexible, multi-year and multi-programme approach to industrial benefits. JACS will establish a common set of procedures for contracting and intellectual property rights which would avoid the duplication of work hitherto carried out by national bodies. Contracts will be awarded on a multi-year basis and will collect funds in advance from member governments for distribution to industry. On the vexed question of European preference, the draft JACS charter referred simply to 'preferring, when meeting the requirements of their armed forces, products in whose development they have participated.' The French did not force formal inclusion of a reciprocity clause, but officials maintained that weapons acquisition decisions would have to reflect 'clear political choices'. However, such decisions will take place on a 'case-by-case basis'. There is apparently a strong feeling on the part of French officials that all JACS sponsored programmes should be acquired by the members.⁽⁵⁵⁾

JACS should lead to a reduction in procurement staffs and the development of a common accounting system. In the short term, only a limited manpower saving is expected, with a number of posts frozen. Longer-term efficiencies will depend upon the number of programmes allocated to JACS. However, large national procurement staffs will still be needed to monitor progress at contractor level, and national establishments will still be responsible for test and evaluation.⁽⁵⁶⁾ General oversight of JACS will be the responsibility of a committee comprising the four NADs and representatives of the chiefs of staffs of the four member countries. Initially, it will oversee a dozen extant Franco-German collaborative programmes.⁽⁵⁷⁾ At a later stage, the JACS will assume responsibility for a number of multilateral projects. The MRAV armoured personnel carrier should be the first new project to be managed by JACS.

Although the JACS is about 'downstream' procurement cooperation, its formation tells us much about the problems of creating European-level structures for generating operational requirements. Developments on the margins of JACS are already looking towards more 'upstream' cooperation. JACS grew out of French and German dissatisfaction at the lack of progress towards the creation of an EAA, and the Franco-German axis continues to inform current developments. Even before the Noordwijk

decision to postpone WEU-level talks on the EAA, the French and German Governments had begun to consider alternatives based on earlier bilateral talks. At the Franco-German summit held in Bonn in December 1993, the defence ministers of the two countries announced their intention to form a bilateral agency to improve the efficiency of collaboration and to reduce the overall cost of joint procurement. In June 1994, more detailed proposals were tabled with the intention of setting up a joint organization by January 1996. The two governments stated that they could not afford to wait for all thirteen WEAG member countries to reach agreement, and argued that progress on common procurement systems could be best achieved through a bilateral structure open to others who agreed to adhere to its policies on eliminating *juste retour* and European preference.⁽⁵⁸⁾

The British were unhappy with the stricter French interpretations of European preference, but they could not ignore JACS, especially as it reflected their interests in improving the efficiency of European procurement. They were also concerned to prevent the Franco-German axis setting the terms of future European procurement collaboration. As one British minister put it, 'we don't want to see an exclusive Franco-German Agency that would set the rules and that we would join later'.⁽⁵⁹⁾ The British had to keep in touch with the Franco-German axis. In the event, with the French softening their position on European preference, the British, followed by the Italians, joined the Franco-German agency in the autumn of 1996. Spain, Belgium and the Netherlands have also indicated their interest in becoming members.

Implementing the JACS system is still subject to detailed negotiation. The administration of a 'globalized' *juste retour* remains vague and ambiguous. It will not be easy to eradicate the practice of national industrial entitlements and there will be strong temptation to protect 'national' capabilities. On closer examination of the JACS, it would appear that there will still be a core of 'national' work (one interpretation suggests up to 60%) with the remainder subject to competitive allocation. JACS will monitor the process and the expectation is that there could be a formal accounting at 2-3 year intervals. While the members do not want too bureaucratic a structure with rigid formulas for assessment and compensation, it is hard to see how they can avoid the need for a systematic accounting of the long-term returns from programmes and dealing with the consequences of persistent imbalances.⁽⁶⁰⁾ A similar ambiguity hangs over the concept of 'case-by-case' European preference and how the JACS states might react to a future decision by one of its members to choose a US-developed system. On the other hand, JACS officials envisage that the European end of transatlantic programmes could in principle come under the aegis of the JACS.⁽⁶¹⁾

There have already been problems with respect to the MRAP. In the negotiations leading to British membership of JACS, the British Government insisted that new programmes should be subject to competition. There were differences over operational requirements based on differing doctrines. The Germans wanted an armoured personnel carrier while the British version would be the basis for a family of vehicles to undertake a range of roles including scouting, and include a tracked version. While the Germans would use a tracked version for some roles, the French wanted only wheels. Initially, the French also wanted a vehicle somewhat heavier than either the British or Germans. These differences could be reconciled by

developing a basic platform which could be used as the basis for independent national derivatives.

But the most serious division between the United Kingdom and the others concerned procurement policy. The British were wedded to an open competition contract allocation system, whereas the other two wanted a more calculated approach. The Germans were prepared to concede a degree of competition at the design stage between two international consortiums, with guaranteed industrial participation at the production stage. The French, with the pressing problem of GIAT's nominal bankruptcy, wanted a simple allocation of work-sharing from the outset and a guarantee of GIAT's presence in the programme. As GIAT could not join both of the international teams without breaching commercial confidentiality, it is envisaged that GIAT will join the winning Anglo-German group at a later stage. This compromise may have facilitated expansion of the JACS, but did little in the short term to reduce over-capacity in the European AFV industry or encourage efficiency.⁽⁶²⁾

However, the French decision, on industrial grounds, to pursue its own national proposals to fulfil the MRAV specification raises more fundamental doubts about whether European governments are yet ready to surrender control over key procurement decisions. The French move may yet be reconcilable with the tri-nation programme. The British and Germans will push ahead with their competitive design studies while the French examine two national concepts, and attempts will be made a later stage to reconcile the two. The French position is that in 1998, they will "compare notes" and see if there is any common ground that will allow us to cooperate'.⁽⁶³⁾ However, this pattern of events is redolent of the manoeuvring before the French withdrew from the four-nation fighter programme to build *Rafale* while Britain and Germany got on with *Eurofighter*. The long-term effect on the JACS remains to be seen, but it seems something of a paradox that the British committed themselves to a collaborative programme in order to join a Franco-German initiative in which the French partner saw its first new venture become a largely Anglo-German affair.⁽⁶⁴⁾

Although born out of a WEAG impasse, JACS officials see their organization as a precursor for a more comprehensive organization. The current structure could later assume responsibility for the harmonization of requirements and financial commitments, common purchasing policies and technical programmes. Finally, it could control integrated logistic and testing facilities which for the moment will be subject to old national and multinational arrangements. A set of operational principles and procedures will emerge as a result of programmes and the experience of merging existing national offices. However, JACS will eventually need a legal status in order to authorize and to administer contracts with industry. This will probably entail translation into a WEU subsidiary body and integration into the WEAG/WEAO framework.

The European NADs accept that this might be possible so long as JACS is open to all members of the WEU, but exactly how it will mesh with the existing WEU machinery remains unclear and the subject of dispute. The WEAO has the legal status of a subsidiary organ of WEU, which allows it to award contracts on behalf of its member nations and could in time encompass a range of European collaborative initiatives including the JACS.⁽⁶⁵⁾ Other WEU states will be welcome to join the JACS, but the

larger arms-producing states want to retain control over its overall direction. As French Defence Minister Charles Millon put it, 'obviously, each nation's weight within the agency will be proportional to the size of programme it contributes.'⁽⁶⁶⁾ The founders certainly hope rapidly to establish a set of procedures and terms of engagement, especially in relation to *juste retour*, that will shape subsequent expansion.

The founders of JACS appear to accept the need for an organization with a clearly defined legal identity embracing the WEU membership once the preconditions of efficiency are met. JACS promoters do not present it as the nucleus of a future EAA, but see it as a way of stimulating the creation and development of the latter by following a parallel course, subsequently to be integrated into a wider European agency. Moreover the word 'agency' was officially avoided so that the multilateral structure would not seem to be in competition with the planned European agency. Administratively, JACS should easily be able to slot into an emerging procurement structure under the WEU umbrella, and the alternative, negotiating a separate treaty, could prove to be politically difficult.⁽⁶⁷⁾ Until then, however, contracting issues will remain temporarily in the hands of the existing national procurement bodies.

The relationship between JACS and the WEU structures has still to be resolved. The November 1996 meeting of the WEU Council did little to clarify JACS's relationship with WEU. While the Council confirmed the WEAO as a subsidiary agency under the modified Brussels Treaty and gave it the legal capacity to place contracts, the creation of the JACS was simply reported to the Council, apparently without discussion. The ministers also discussed other long-standing issues such as the harmonization of requirements and the role of the WEAG in armaments cooperation without substantive agreement, and the NADs were again remitted to consider these issues in detail with a view to generating decisions at a later WEU Council.⁽⁶⁸⁾ Although it would seem that JACS and the WEU structures could be amalgamated, several issues will continue to affect the development of a comprehensive European procurement system, including structures to facilitate more effective harmonization of operational requirements. The French hope that JACS will be given a judicial standing during 1997.⁽⁶⁹⁾

In the meantime, the French and Germans are pressing ahead with further harmonization. The December 1996 summit at Baden-Baden agreed to the establishment of a bilateral working group to harmonize requirements. This will consist of the national armaments directors, chiefs of defence staffs and directors of strategic planning of the two countries.⁽⁷⁰⁾ This continues to build on the experience of operational cooperation between the French and German military. Both countries intended that their joint procurement agency would have moved rapidly in this direction. It certainly appears to be taking a step beyond JACS to encompass joint military planning looking at tasks, capabilities and role specialization. In the first instance, agreement on operational requirements would be sought by the four members of JACS and subsequently opened up to the other WEU countries. This activity is a reminder to others in Europe - especially the United Kingdom - that enhanced Franco-German cooperation, and the pressures of the biannual cycle of summits and other high-level contacts, continues to set the agenda for wider European security cooperation. While this process might be open to the JACS group, there is a

strong incentive to evade the complications of a thirteen-state agency, or at least to set the terms of a WEU structure.

The problem of major-minor arms-producing countries

The JACS initiative was driven by German and French dissatisfaction with progress in the WEU. Obtaining agreement from thirteen states was never going to be easy. The British were reluctant to embrace rapid internationalization of the procurement process. More generally, the minor arms-producing states also had deep concerns about any threat to guaranteed industrial entitlements. As one French official put it, 'after 3-4 years to get nowhere with thirteen states, the JACS is a way to get things moving.'⁽⁷¹⁾ This appears a sensible step: as van Eekelen put it, 'the EU is indeed global, but armaments is not yet a global question'.⁽⁷²⁾ If France, Germany and Britain can begin the harmonization process, the others might be persuaded to follow their lead. In terms of harmonizing operational requirements, the armed forces of the core states already implicitly lead the remainder, just as American doctrine has tended to set the baseline for NATO operations. Few of the non-JACS states have recent military experience or NATO front line responsibilities to match those of the British, French, Germans or Italians. Of the JACS group, only British and French forces have regularly seen combat since 1945. Several other European states, including a number of the 'smaller' military powers, have undertaken peacekeeping operations. A lack of combat or large formation experience should not deny states participation in the formulation of operational requirements - especially in the more technical areas such as communications, engineering support and logistics generally. However, it must be recognized that, even though the decision-making process may be nominally egalitarian, those countries with greater operational experience may feel that their view should therefore carry greater weight.

Defence is still a sovereign responsibility of states, and all countries are sensitive about a loss of authority in this area - especially if there are broader economic and industrial consequences. According to an official involved in drafting WEU's position on the EAA in October 1995, 'we are drifting towards a gulf between the larger countries, which favour regulating relations with industry, and the smaller countries that have no defence industry to protect and oppose anything smacking of industrial policy. The eventual goal might be to produce a 'variable-geometry framework open to interested countries without any obligation'.⁽⁷³⁾ While the British might also oppose 'regulation' and an 'industry policy', they too are more likely to agree with France and Germany on operational issues and to prefer a preponderant role in policy-making.

However, from the perspective of a small European state, especially if it has a modest defence industrial base to protect, things seem rather different. If the larger countries fear US hegemony, their smaller partners have similar worries about the dangers of a comparable dominance by the 'core' defence states in European security. Concerns about the sharing of ostensibly European frameworks by the larger states were expressed by the Dutch when the Franco-German initiative that led to the JACS was announced. According to the Dutch Defence Minister, Gmelich Meijling, 'it cannot be the case that the way in which these two countries are building their own agency should dictate the conditions for European-wide collaboration . . . Joining a ready-made table may be attractive in day-to-day life, not so in politics.'⁽⁷⁴⁾ This raises a much broader question about the advisability of different 'speeds' of European

cooperation. In particular, it casts doubt on the extent to which security issues and, more important, military operations could be subject to EU style decision-making.

For the smaller European states, however, a formal policy of *juste retour* represents a vital defence of national industrial assets against the power and productivity of the larger states' defence companies. Some would see it as an essential tool of integration - the price of small-state acquiescence to a common defence acquisition policy. However, such a view is untenable from a cost-effectiveness perspective, and would be seen as an unacceptable price for European harmonization by the more apparently hawkishly liberal states such as the United Kingdom. The issue is further complicated by the need to rationalize the EDITB, and the leading European companies assert that the smaller countries, with their comparatively small defence industries, cannot be allowed to compromise the march toward a pan-European industry. In the view of several leading industrialists, Europe's identity in the field of armaments will be shaped by those countries that spend the most and have the largest industries.⁽⁷⁵⁾ However, if the JACS 'Four' want an integrated, perhaps protected European defence market, its price may be guaranteed industrial participation or a clearly defined compensation/offset mechanism. At the very least, the major arms manufacturing states and their prime contractors cannot in turn show undue preference for national suppliers and subcontractors.

'Buy European' and the United States

Despite the apparent agreement in JACS to accept a 'case by case' review of arms purchases outside the European region, European preference will remain a testing problem for the WEAG member states. Although industrial and technological issues are key factors in this debate, operational questions of course also shape national positions. The British Government's official position is firm on this matter. While recognizing that not all nations share this view, and opportunities for collaboration might be constrained as a result, '... to compromise UK policy which has helped the British industry to become the fittest in Europe is not the answer. MOD is continuing through the WEAG forum to foster an open market free of protectionism, subsidy, *juste retour* and other mechanisms which in the long term are detrimental to it.'⁽⁷⁶⁾ The British feel that this view has considerable merit for a European body ostensibly designed to increase efficiency. Equally important, however, the British armed forces are reluctant to constrain the option to buy from the United States on operational grounds where cost and delivery times count against a European product.

The French, despite some early apparent softening of their equally forthright stance, have recently reiterated the importance of adopting a 'buy European' policy. In September 1996, French Minister of Defence Charles Millon stated that Britain would be left out of the JACS unless it embraced Euro-preference. However, driven by economic factors and the need to improve the efficiency of national weapons procurement, the French are prepared to adopt more competition within Europe, but this has to be matched by ring-fencing the EDITB. The French see this as a *quid pro quo* for accepting more cost-driven procurement principles, which would imply an end to 'industrial entitlements' shaping procurement.⁽⁷⁷⁾

The scale of even the United Kingdom's Atlanticist procurement choices should not be overestimated. The bulk of British military equipment comes from national

sources. British industry, despite its determination to maintain access to the US market, often finds it easier to cooperate with Europeans. In terms of operational requirements, the United States has rarely been concerned to adapt its needs to suit partners or allies. Again, this reflects the hegemonic characteristics of US-allied relations and the assertion that, other things being equal, US equipment is the most likely to meet any conceivable challenge from potential enemy forces. Moreover, in the absence of a second superpower, the United States is increasingly setting the technological and defence concepts agenda for weapons development throughout Europe.

As noted earlier, US governments have frequently extolled the virtues of allied industrial co-operation in order to improve standardization and encourage closer political links between the United States and Europe. But over the last twenty years, the United States has faced an increasingly difficult task in reconciling the benefits of encouraging NATO industrial cooperation with national and regional industrial ambitions. The 'two-way-street' in arms supply has always looked too much like a west-east one-way highway. Defence Under-Secretary Paul Kaminsky's attempt in 1996 to rekindle transatlantic defence cooperation is to be commended. He set out a programme of twenty projects which could be subject to collaborative research between the United States and the four leading European arms manufacturing states. High priority was attached to the C3 area and there are still prospects for military communications satellite cooperation between the United States, France and the United Kingdom. Kaminsky admitted that Europeans were sceptical of US commitment to collaboration, but he believed that economic pressures would force both sides to accept a substantial degree of transatlantic cooperation in the future.⁽⁷⁸⁾

However, intra-European collaboration remains twice as common as transatlantic ventures. The United States adheres to joint projects of limited scale, which hinders broad integration and interdependence. This approach emphasizes joint production agreements with limited technology transfer. As a result, nearly all of the Nunn Amendment projects were cancelled for both political and bureaucratic reasons. The US military demand maximum control over weapons design and rarely seek to consult with potential partners. Moreover, despite Kaminsky's view about economics driving collaboration, the US system generally tends to favour domestic production when defence spending is depressed in order to protect national capabilities and jobs.⁽⁷⁹⁾

Even if the US administration may favour inter-allied cooperation, Congress remains aggressively protectionist. In 1996, several resolutions were tabled in the House to tighten and to extend the 'buy American' legislation. However, US industry is aware that failure to adopt a more flexible attitude could increase European demands for countermeasures. Continued access to the European market is important for American industry, but time is running out for new programmes. The French position is well defined, and the German Government has warned that the period until 1999 will be critical for continued transatlantic cooperation. Even the United Kingdom, with its strong commitment to transatlantic trade, has served notice that its support is not unqualified and must be reciprocated.⁽⁸⁰⁾

There are exceptions which may become more frequent, as even the United States seeks to defray the costs of weapons procurement. For example, the British Government has contributed \$200 million to the Joint Strike Fighter (JSF)

programme, has been closely involved in setting requirements to guide specifications, and has participated in the industrial selection process. Although the 1996 decision went against the MDC-BAe team bidding for the JSF, British industrial interests are still represented by Rolls-Royce, and BAe expects to participate in one of the run-off prototypes. British officials were happy with the way in which the Royal Navy's requirements were addressed in the JSF selection process. British officials were involved in the operational requirements and contract selection process. Should the United Kingdom decide to buy the JSF, other development and production contracts will undoubtedly follow. The United Kingdom's Defence Export Services Organization is already providing considerable support for British firms bidding into the programme. However, for the moment, BAe's future as a combat aircraft design and production centre is still more dependent upon developing a *Tornado* replacement with European partners and making a commercial success of *Eurofighter*. However, the British Government may soon face a tricky decision either to back a purchase of the JSF or join an alternative European *Tornado* replacement.⁽⁸¹⁾

Whatever form the alliance and industrial relationship between Europe and the United States assumes over the next decade, there is likely to be the need for a strong operational link between the two regions. Interoperability, or at least the ability to fight effectively together, will remain essential. In particular, a lack of collaborative efforts to manage the electromagnetic spectrum during military operations could lead to jamming of equipment of allies and foes alike. Equally, insufficient numbers of electronic warfare platforms could (as has happened in Bosnia) lead to the cancellation of missions. Requirements in this area need to be harmonized and, given the rising cost of specialist systems, may be best developed as common programmes. There are some things - the AWACS system for example - that Europe cannot afford to develop alone, and reliance on the United States will be inevitable. However, the temptation for the United States to go ahead without involving its European allies and partners may jeopardize interoperability and collaboration.⁽⁸²⁾

Joint military forces and harmonization

The growth of permanent European multinational forces has a potential for building consensus on operational doctrines and common views about future requirements. Multinational forces such as EUROFOR and EUROMARFOR, 'might constitute steps in the direction of common requirements'. The Belgian and Netherlands navies are working towards force integration, including joint procurement planning and technological pooling. The European Corps aims to achieve standardization in areas such as command and communication systems, and its military leaders will urge the adoption of common technical specifications. Writing in 1988, Lothar Rühl described the four battalions of the Franco-German brigade as an ideal opportunity to 'compare concepts for tactics and operations', entailing joint education of general staff and other senior officers.⁽⁸³⁾ The UK-Netherlands Amphibious Force is working towards common tactical and logistic procedures and material standardization where possible. Other bilateral agreements, such as the Franco-British air defence cooperation, may encourage the emergence of a common operational culture which might lead to a convergence of equipment requirements. Indeed, the November 1996 Anglo-French naval agreement contained explicit reference to strengthened cooperation in R&D leading to the procurement of 'complete combat units'.⁽⁸⁴⁾

Other opportunities for cooperation are expected to follow operations such as IFOR and SFOR. Recent military operations carried out in a multinational context have shown that the lack of equipment harmonization and interoperability reduces to a great extent the operational and logistic effectiveness of the units involved in such operations.⁽⁸⁵⁾ However, the level of integration of multinational forces will have to be more than just a headquarters or a group of designated units that come together for specific operations before they begin to create the kind of common thinking and conceptualization that would generate common weapons requirements. The Petersberg Declaration also contained reference to several mission areas where joint WEU activity could be encouraged. Operational since 1993, the WEU Planning Cell has helped to refine the 'Petersberg Missions' and is making a contribution to the common operational requirements process.⁽⁸⁶⁾ If the member states wish WEU to become a better prepared organization for dealing with non-Article V missions 'they need to develop its joint capacities further, including logistics, transportation, communications and satellite intelligence.'⁽⁸⁷⁾ This would certainly provide other opportunities for joint operational requirements thinking.

The high-level group of experts convened in 1994 to advise the Commission on the CFSP, suggested the setting up by the WEU of a standing committee of Chiefs of Staff modelled on the NATO Military Committee. At the WEU ministerial meeting in Paris on 13 May 1997, it was decided to establish a permanent military committee. This should be backed up by medium and long-term operational requirements subcommittees to go beyond contingency planning. They would draft equipment specifications for armed forces along with proposals to upgrade and expand multinational intelligence programmes and airborne forces. These steps should be matched by measures designed to improve the efficient delivery of European-produced weapons, and include restructuring and market access issues.

The CJTF concept may have a similar impact, if it can generate a culture of close military cooperation imbued with a developing sense of common doctrine and procedures. These could become the kernel of future common views about equipment needs. In the short term, this would certainly imply further improvements in common logistics and communications systems to support operations outside the immediate European area. The CJTF concept has the additional advantage (or complication) of mixing American and European assets, and could conceivably (though not very likely) dilute the US tendency to see harmonization and standardization in terms of American criteria and, more important, US-designed equipment.⁽⁸⁸⁾

Finally, role specialization may appear to be an attractive way of achieving harmonization. However, it would entail difficult political problems to determine what roles should be performed by which states, and whose companies are to supply the equipment. This approach also implies prior agreement on the shape of European defence policy and a willingness on the part of states to surrender responsibility, even sovereignty, for key military functions to others, which is a very important point. Although this already occurs tacitly within NATO in so far as the Europeans rely on the United States for heavy air lift and much of its space assets, going much further along the road to a CFSP implies a degree of political integration that does not yet exist in Europe.

European industrial rationalization

and a common procurement system

Economic and industrial pressures are already moving Europe away from *ad hoc* collaboration. The emergence of a rationalized, EDITB will create a demand for matching integration of the operational requirements process. If and when an integrated EDITB materializes, it will still need more than a vague statement of military needs to guide development. Industry needs some indication of future military needs to shape its research strategies and, perhaps, to form pre-production consortiums. The formulation of common requirements and in general the development of a Europeanized procurement system, and the evolution of a rationalized EDITB, are clearly interdependent. However, at worst it could mean that national contractors lose business. For example, the German MOD is discussing drawing together the United Kingdom's *Storm Shadow* version of the French *Apache* stand-off missile with the German *Taurus* design. This would save money, but it would mean less business for Daimler Aerospace. However, this would be better than nothing, and links with Matra-BAe Dynamics might be an alternative to the stalled merger of its missile interests with those of Aerospatiale.⁽⁸⁹⁾ The differing pace at which the various national DIBs have come to terms with the harsher financial environment has left companies at different levels of preparedness to accept more competitive procurement. In particular, those companies (and countries) which have got into defence production simply for perceived technological benefits and with less regard for cost-effectiveness might be most pressed by a more demanding procurement regime.

However, as permanent transnational weapons consortiums or subsidiaries emerge, questions of national ownership and work-sharing *juste retour* will become blurred. A key feature of national defence industries world wide is the extent to which they and their governments are locked into a symbiotic relationship. In the United States, the relationship has been complicated by the presence of competition between companies - especially amongst prime contractors - a situation largely absent in Europe where prime contractors and many large subsystems manufacturers have become 'national champions'. There are tensions even between European national champions and national procurement agencies (particularly marked in the United Kingdom between 1978 and the early 1990s), but concern to protect defence national industrial, technological and employment interests has created a largely interdependent relationship. Indeed, the protection of what are perceived to be key defence industrial assets and sanctioning of an inefficient or ineffective contractor (ultimately, by programme cancellation) is often the main source of tension between the two parties. Equally, in negotiating collaborative programmes, governments seek to defend their national industrial and technological interests, especially in terms of securing a 'fair return' from work-sharing agreements.

The emergence of European defence transnational groups and companies may make it easier to establish more effective industrial structures - in some cases, perhaps, it could be possible to introduce elements of competition into the process. Yet even under these conditions, governments could still be torn between advocacy of overall programme efficiency and concern for national industrial or technical interests. As the example of Japanese car companies operating in the United Kingdom shows, national

governments will protect important industrial actors irrespective of ownership. However, in the end the crucial feature of a transnational enterprise is its ability to take operational and commercial decisions on the basis of efficiency and economic rationality. Strategic decisions have to be made to invest or to disinvest in a particular area. This would have to apply to the defence transnational company if it, and notional 'European taxpayers', were to maximize the benefits of monetary union, strengthening the single market encompassing a European defence market and European defence industrial system.

This has profound implications for the wider politics of defence procurement. As the *Eurofighter* experience would seem to confirm, improvement in the control and management of international programmes may only follow the adoption of single prime contractors linked to national subcontractors. It might also be the case that lesser national contributors would have to accept limits to their decision-making powers over the joint project. Even better, perhaps, if the lead contractor was already 'internationalized' some key work-sharing issues would already have been anticipated by the transnational organization of the company. If, as is likely, the future structure of the EDITB is concentrated in a few centres, national or international procurement agencies will have to develop procedures to manage oligopolistic or even monopolistic situations. At this point, the relationship with a similarly structured US DIB may have to be reconsidered, the idea of an Atlantic defence market might yet have its day and could perhaps act as the catalyst for more effective NATO-WEU joint requirements procedures.

CFSP and harmonization

In the end, hoping to establish procedures for formulating common European operational requirements in the absence of a common security policy could be an illusion. The heart of the matter is the extent to which it will be possible for harmonization of European military requirements to take place before agreement has been reached on the goals of European security. But just how much explicit agreement on a CFSP is required to allow European armed forces to develop sufficient commonality to guide future weapons development and procurement? As we have noted above, national systems work on the basis of generalized security goals that are translated into a range of military tasks and missions. For example, the British military do not generally buy equipment just for peacekeeping roles. However, the increase in international aid missions may accelerate the replacement schedules for some major equipments. While the suitability of equipment for this may now be an important additional specification, the product primarily has to be useful in, and capable of surviving a high intensity conflict. With future threats and missions uncertain and vague, the key to contemporary weapons development is flexibility and multi-role capabilities. This may help to facilitate commonality.

The degree of overall policy guidance required to inform the procurement process will depend upon the level of strategic and political impact. If Europe is to formulate a comprehensive identity in questions of deterrence, conflict prevention, and especially force projection, it can hardly proceed without further agreement on European security goals and missions. The decision to develop common nuclear capabilities, carrier task forces and global C3I systems implies much higher-level procurement choices than, say, what the characteristics of a new armoured personnel carrier should

be. Whereas one could envisage a transnational structure to undertake the latter and oversee its procurement without much high-level agreement on security goals, the other projects would need solid agreement based on the CFSP, especially the idea of a European nuclear weapons force to replace the current French and British delivery systems.⁽⁹⁰⁾

As a general rule, national governments have been less likely to allow a European agency to oversee a high-cost, state-of-the-art project than a less complex, cheaper item. One can envisage a 'grey area' of weapons programmes that, while following conceptually similar paths to past equipment choices, imply significant choices for European security: long-range fighter-bombers and cruise missiles backed by high-precision, satellite navigation systems, would probably come into this category. Yet building a continental missile defence system (with or without US involvement) would similarly have major security implications that would require prior agreement on development and deployment options amongst European states. The high costs of some systems (but by implication also the benefits of technological and industrial entitlements) are also a factor here.

There are a number of pressing considerations for European defence stemming from the so-called 'Revolution in Military Affairs' (RMA), which are going to put novel demands on European defence capabilities. The RMA sums up a set of linked concepts loosely defined in terms of 'information' or 'cyber' warfare. The United States is investing heavily in the software and hardware associated with the RMA. Although still opaque in its implications for future strategy, the RMA will have to be addressed by the European military and industrial establishments. Europe needs now to prepare a set of requirements to meet the RMA and to make the necessary commitments to R&TA. The issue may not be about the absolute costs of future defence - some aspects of the RMA might be comparatively cheap - but the technological requirements may have to be fulfilled by collective action. As much of the RMA is about information technology, dual-use questions and the role of R&TA supported by civil agencies, such as the EU Framework Programme, will also have to be tackled. It is not entirely evident that the national military establishments in Europe have woken up to the implications of the RMA.⁽⁹¹⁾ This may be one area where the WEAG/WEAO can take a clear and imaginative lead in investigating the RMA and an appropriate European response. An important point is that there is clearly a risk that Europe could be outpaced by the United States's technological advance, to the point where its forces are incapable of fighting alongside its American allies.

There may be other opportunities to start afresh. The new demands on European states may be 'defining new possibilities for Western European cooperation, including for the first time perhaps, a very real chance to effect defence specialization and increased standardization and interoperability.' Davis does however warn that this in turn depends upon the 'ability and will of European leaders to articulate a shared vision of Europe'.⁽⁹²⁾ The key question, however, is just how much agreement is needed at the highest level in order for progress to be made in the area of armaments cooperation and in sufficient time to protect European defence interests.

CONCLUSIONS

Writing generally about European defence and security cooperation, Peter Schmidt suggests that there is a tendency to place 'too much emphasis on institutions and too little on political substance. Institutions are not a value in themselves. Without taking into account the necessary resources and political support/legitimization, all talk about "institutional mechanisms" is talking round the subject.' He notes the existence of two apparently different approaches to the development of a common European security policy: the 'top-down' and the 'bottom-up'. After reviewing the decision-making options for a common European security policy that might cope with European diversity, he concludes that there may be 'no striking institutional solution for the problem of diversity'. A wider European system could carry the risk of deadlock; a core-based solution might generate more problems than solutions.⁽⁹³⁾

Despite Schmidt's warning, it is still tempting to call for a thorough reform of the European weapons procurement process. Many see the cumulative results of the last decade in very pessimistic terms. Despite much effort, this has not 'led to concrete achievements at the European level'.⁽⁹⁴⁾ It is widely thought that the current state of affairs is unsatisfactory, and that events, especially in the United States, are stepping up the pressure on Europe to increase efficiency and effectiveness throughout the procurement system. From this perspective, the solution is to be found in a 'top-down' reform, implying the need for another 'big bargain' struck by European governments to cut through institutional obstacles and political obstructions. Real progress on the harmonization front can only be achieved through fundamental agreement on a CFSP. European industrial integration alone can only go so far to stimulate change and reform of the procurement process. However, even if agreement can be achieved to accelerate the process of forming a common security policy, any decision (positive or negative) will still take over a decade to have an impact. In short, this smacks of the 'magic wand' approach to affairs and does not address the pressing need to get something under way now. It is better to have some progress somewhere rather than none everywhere.

Improvements in the process of conceiving, developing and producing weapons will be gradual. For most of Europe 'defence planning guidance [is] more dependent on financial bottom lines than a coherent plan that matches ends to means and resources to strategies, not to mention coordination with key security partners.' If defence cooperation was such a key policy objective of each of the nations, then 'optimally they should start at the beginning - at the defence conceptual planning stages, moving to common weapons-acquisition strategies and joint training and deployment . . .' Europeans cannot afford this approach, and they will be forced 'on an individual and collective basis to rely on what they have and adapt force packages to tailored contingency planning'.⁽⁹⁵⁾ The Petersberg Declaration, the Common Security Concept adopted by WEU countries at Madrid in 1995 and the EUROLONGTERM remit to look, over a ten-year period, at equipment needed for an improved European contribution to crisis management and resolution, peacekeeping and humanitarian missions, form the soft underbelly of harmonization.⁽⁹⁶⁾

Although the problem of improving the process of European weapons procurement is not just about creating institutions, they nevertheless help to define the location and

structure of a decision-making process, and are necessary adjuncts to creating a legal identity and achieving procedural stability. Even if, as one British Parliamentary Report has noted, 'the WEU is not essential to European collaboration in defence procurement', there is need for a better European organizational framework to handle harmonization questions and to coordinate procurement further 'downstream'.⁽⁹⁷⁾ An expanded and integrated WEAG/WEAO/JACS, perhaps with a full EAA to follow, is necessary to expedite even incremental change.

Europe may already have too many institutional forums with an interest in security and procurement issues. The EU, WEU and NATO are already deeply involved in the mechanics of armaments development. It is crucial that they do not add competing or contradictory voices to the process. For example, the European Commission's interest in extending competition policy rules to the defence sector and encouraging measures to support the EDITB should itself be harmonized with the needs of a common procurement system. The EU Council of Ministers is studying industrial reorganization issues as a follow-up to the Commission's proposals. The aim is to achieve a common position on as many issues as possible for incorporation into the IGC, which is currently examining amendments to EU treaties. While officials claim that these discussions will not usurp the primary role of the WEAG, the lack of progress by the WEAG in these matters has encouraged this initiative.⁽⁹⁸⁾ Nevertheless, the EU context is civilian, and military uniforms are rarely invited to its discussions. The danger is that the dominant voices may become officials and industrialists, and that the interests and the advice of the military are neglected in the emerging procedures and policy frameworks.

Armaments cooperation is not an end in itself or an adjunct of national or European industrial policies. The main aim of a European weapons procurement process must be to provide cost-effective equipment for the armed forces. The interests of the military must not be left as an afterthought. Although the European military staffs are discussing and participating in joint activities more frequently, and have decades of experience of working in allied contexts, they are not converging at the same speed as industry or even the civilian agencies. The emergence of a European military culture based on joint forces and units, as well as the network of bilateral and multilateral agreements, must be reinforced and coordinated through the WEU. This should include a more intense dialogue between Chiefs of Defence Staff on requirements. In turn, this might require an additional institutional dimension with the means and power to define specific groups of future weapons that would necessarily be the subject of cooperation. Establishing a European defence college or comparable body could help to forge a common military identity and encourage convergent doctrinal thinking. But even with such reforms, it might take a long time to have a positive impact on European procurement.⁽⁹⁹⁾

The weapons procurement process takes the form of a complex network involving a heady mixture of military, bureaucratic, industrial and political interests. It embraces highly technical questions invoking operational experience, technological assessment and foreign policy projections. Running programmes adds further complexity, and again requires a high level of managerial competence. change at an international level adds geometrically to the order of difficulty. The development of an organized European framework for procurement will be a slow, incremental process based, at least in the first instance, on the principle of intergovernmentalism.⁽¹⁰⁰⁾ The

difficulties of 'overcoming habits that have developed over generations, and the long lead times . . . of military equipment mean that a considerable inertia is built into the system.⁽¹⁰¹⁾ If a thorough approach is not practical, absolute minimalism is not acceptable either. The latter viewpoint would argue that project-by-project harmonization (the traditional *ad hoc* collaborative strategy) could be sufficient for most military needs. However, such an approach would continue to be prey to operational needs being compromised by national industrial interests and work-sharing bargaining. Harmonization would remain piecemeal and little would have been done to improve the time taken to get weapons into production and service.

Whatever happens regarding the CFSP, governments will always be under pressure to make savings in defence costs. This too should not be allowed to still the voice of military concern that the fighting man should not carry the burden of a poorly constructed procurement process that compromises military effectiveness for industrial motives and administrative convenience. Recent commitments to a range of very expensive land, sea and air systems could have provided Europe with some breathing space for administrative change. There may be some time to tackle the upstream aspects of procurement reform in the area of operational requirements harmonization - especially if the CFSP and CDP mentioned in the Maastricht Treaty were to evolve sufficiently rapidly to inform development by the time serious commitments to the next generation of weapons are needed. This should have been matched by an integrated EDITB to take the edge off industrial entitlement and work-sharing issues. However, there is no denying that progress towards the goal of harmonization has remained painfully slow and may still become entangled in much broader debates about the speed of European integration generally. Without some overarching concept for European weapons procurement, the result may be a lack of coherence and an even worse situation.

1. Alessandro Politi, 'On the Necessity for a European Defence Industry', in von Bredow et al., *European Security*, forthcoming.
2. 'WEAG, the course to be followed', Technological and Aerospace Committee of the Assembly of the Western European Union, Document 1483, 6 November 1995, Executive Summary.
3. Jacquelyn K. Davis, 'Restructuring Military Forces in Europe', in 'European Security After the Cold War', *Adelphi Paper*, no. 284, 1994, p. 79.
4. Davis, op. cit., p. 80.
5. Pierre De Vestel, 'Defence markets and industries in Europe: time for political decisions?', *chaillot Papers* 21 (Paris: Institute for Security Studies of WEU, November 1995), p. 1.
6. CEC, 'The challenges Facing the European Defence-related Industry, a Contribution for action at European Level', Communication from the Commission, Brussels, COM(96) 10 Final, 24 January 1996, p. 17.
7. T. Taylor, Defence, *Technology and International Integration* (London: Pinter, 1982), p. 68.
8. The author had an interesting time discussing the merits of modern airships as potential surveillance and ASW platforms with UK military personnel.
9. William Walker and Philip Gummett, 'Nationalism, internationalism and the European defence market', *chaillot Papers* 9 (Paris: Institute for Security Studies of WEU, September 1993), p. 28.
10. Interview with British official, Brussels, February 1997.
11. One British official noted that unpicking the national positions is one of the toughest aspects of establishing common requirements. The process often resembles a Russian doll, where an agreement appears to have been reached, only to reveal another layer of difficulty. As he put it, 'the devil is in the detail'. Interview, Brussels, February 1997.
12. Taylor, op. cit., p. 152.
13. Taylor, op. cit., p. 80.
14. WEU Assembly, Document 1483, op. cit., paras. 202-4.
15. In this case, France's budgetary problem was an excuse to bail out of a politically unpopular joint programme.
16. Giovanni de Briganti, 'Fast-paced Reform is not Without Cost', *Defense News*, 14 October 1996, p. 1.

17. While there were also strong operational reasons for their choice of the *Apache* helicopter, the British could also point to the long delay in the *Tiger's* in-service date. Similar problems appear to be endangering the *Horizon* frigate programme.
18. De Briganti, 'Troubling Year Highlights Franco-German Friction', *Defense News*, 14 October 1996, p. 36.
19. De Briganti, 'Franco-German Rift Narrows', *Defense News*, 16 December 1996, p. 4.
20. De Briganti, 'Delinquent French Payments Anger NH-90 Copter Partners', *Defense News*, 27 January 1997, p. 1; 'Franco-German Defence Concept Lacks Substance', *Defense News*, 3 February 1997, p. 3.
21. WEU, Document 1483, op. cit., paras. 202-4.
22. WEU, Document 1483, op. cit., paras. 201-3, 210-12.
23. P. Sparaco, 'French Agency Urges Cleanup of Military Procurement Mess', *Aviation Week and Space Technology*, 28 October 1996, p. 41.
24. House of Commons, *Aspects of Defence Procurement and Industrial Policy*. First Report of the Defence and Trade and Industry Committees, *Aspects of Defence Procurement and Industrial Policy*, Session 1995-6, HC61/62, London, HMSO, pp. 4-5; De Briganti and Charles Miller, 'UK, Italy Agree to Join Arms Agency', *Defense News*, 11 November 1996, p. 1; B. Clark, 'Portillo urges European firms shake-up', *Financial Times*, 24 October 1996; Clark, 'UK and Italy join European arms agency', *Financial Times*, 12 December 1996.
25. De Vestel, op. cit., p. 37.
26. De Vestel, op. cit., p. 40.
27. Simon Webb, *NATO and 1992: defence acquisition and free market* (Santa Monica, CA: RAND, July 1989), p. 100.
28. French aircraft flying in Operation DESERT STORM had to be allocated distinct corridors to avoid 'friendly fire'.
29. Webb, op. cit.
30. Keith Hayward, *The World Aerospace Industry* (London: Duckworth/RUSI, 1993), pp. 170-4.
31. See D. Haglund (ed.), *The Defence Industrial Base and the West* (London and New York: Routledge, 1989), chapters 6 and 7.
32. 'Why NATO is still chasing the Holy Grail of harmonization', *Jane's Defence Contracts*, December 1996.

33. Interview with German procurement official, December 1996.
34. 'Why NATO is still chasing the Holy Grail of harmonization', *Jane's Defence Contracts*, December 1996.
35. Founded in 1953 as FINBEL. The Germans joined in 1956 and the British in 1972.
36. WEU Document 1483, op. cit., paras 5-6, 11. Interview with WEAG official, Paris, January 1997.
37. WEU Document 1483, para. 23.
38. Walker and Gummett, op. cit., p. 14.
39. Interview with WEAG official, Paris, January 1997.
40. National Audit Office, *Ministry of Defence: Procurement Lessons for the Common New Generation Frigate*, (London: HMSO, 1995), HC 962, p. 2.
41. Interview with British official, NATO, Brussels, February 1997.
42. National Audit Office, op. cit., pp. 9-10, 17-18.
43. Bruce Tigner, 'UK Weighs Horizon Frigate Alternatives', *Defense News*, 3 February 1997, p. 28. De Briganti and Miller, 'PAAMS Dispute Threatens Stability of Horizon Project', *Defense News*, 24 March 1997, p. 1.
44. 'Accord à trois sur le PAAMS', *TTU Europe*, no. 187, 29 May 1997, p. 1.
45. WEU, Document 1483, op. cit., paras. 190-201.
46. House of Commons, *Western European Union*, House of Commons Defence Committee, Fourth Report, Session 1995-6, HC105 (London: HMSO, 1996), pp. 4-5.
47. WEAG's paper to the 1995 Madrid meeting of EU defence ministers called for closer cross-border contacts between Chiefs of Staff to help define common operational requirements. T. Hitchens, 'EU Study May Spur Common Defense Industrial Base', *Defense News*, 16 October 1995, p. 4.
48. Willem van Eekelen, 'Defence Equipment Cooperation', CEPS Working Party Report, no.15, Brussels, November 1996, p. 39.
49. WEU, Document 1483, op. cit., paras. 210-15, 347-8.
50. De Briganti, 'Scepticism Greets New WEU Arms Agency', *Defense News*, 25 November 1996, p. 1. The WEAG has not been absorbed into the WEAO not only because the WEAG operates at a higher decision-making level responsible directly to the NADs, but also because of the implications for Turkey, Denmark and Norway which, while members of WEAG, are not full members of WEU.

51. WEU Council of Ministers, 'Ostend Declaration', 19 November 1996.
52. De Vestel, op. cit., p. 98.
53. Walker and Gummatt, op. cit., p. 50.
54. Carol Reed, 'Blanc sets agenda for armaments agency', *Jane's Defence Weekly*, 7 February 1996, p. 9.
55. De Briganti, 'Four-Nation Arms Agency Selects Initial Projects', *Defense News*, 18 November 1996, p. 1; 'Europe Launches Joint Procurement Agency', *Defense News*, 3 February 1997, p. 10.
56. Interview with German procurement official, December 1996.
57. Including the *Tiger* attack helicopter, *Milan* and *HOT* anti-tank missiles, the *VBM* (Véhicule Blindé Modulaire - Modular Armoured Vehicle) and the *Brevel* UAV.
58. De Briganti, 'France, Germany Say Arms Agency Will Slash Costs', *Defense News*, 18 December 1995, p. 1.
59. 'Towards a Euro-mix', *The Economist*, 11 March 1995.
60. De Briganti, 'UK, Italy Agree to Join Arms Agency', *Defense News*, 11 November 1996; Clark, *Financial Times*, 12 December 1996; De Briganti, 'Debate Over European Preference Snarls New Arms Agency', *Defense News*, 23 September 1996, p. 12; De Briganti, 'Four-Nation Arms Agency Selects Initial Projects', *Defense News*, 18 November 1996, p. 1. Also, interview with German procurement official, December 1996.
61. Interview with JACS official.
62. B. Grey, 'Military project worth 3 billion agreed', *Financial Times*, 2 July 96.
63. De Briganti, 'France Pursues Own Options For Wheeled Combat Vehicle', *Defense News*, 1 July 1996, p. 19.
64. It now appears that the MRAV will not now be assigned to JACS, at least until there are competing French industrial partners to match the British and German participants. This would undermine much of the momentum behind JACS and the implementation of the new principles of globalized *juste retour*. It would also leave the United Kingdom without a project inside the organization.
65. De Briganti, 'Europe Weighs Blanket Arms Agency', and 'One-on-One, Charles Millon', *Defense News*, 14 October 1996; 'Armement: la Coopération Européenne se Renforce', *Air et Cosmos*, 15 November 1996.

66. De Briganti and Miller, 'UK, Italy Agree to Join Arms Agency', *Defense News*, 11 November 1996; Clark, *Financial Times*, 12 December 1996; 'Four-Nation Arms Agency Selects Initial Projects', *Defense News*, 18 November 1996.
67. WEU Document 1483, op. cit., para. 321.
68. WEU Council of Ministers, 'Ostend Declaration', 19 November 1996.
69. *Lettre Hebdomadaire d'Informations Stratégiques*, 20 March 1997, p.1.
70. De Briganti, 'Franco-German Rift Narrows', *Defense News*, 16 December 1996, p. 4.
71. Interview with French procurement official, December 1996.
72. Van Eekelen, op. cit.
73. De Briganti, 'Arms Agency Takes Flexible Stance', *Defense News*, 16 October 1995, p. 100.
74. Joris Jansen Lok, 'Dutch warn Against French, German lead', *Jane's Defence Weekly*, 25 November 1995, p. 11.
75. De Briganti, 'Poll Discounts Small Nations in European Industry Effort', *Defense News*, 6 November 1995, p. 24.
76. House of Commons, Government Reply to First Report of the Defence and Trade and Industry Committees, *Aspects of Defence Procurement and Industrial Policy*. Session 1995-6, HC209/210 (London: HMSO, 1996), para. 34.
77. De Briganti, 'Debate Over European Preference Snarls New Arms Agency', *Defense News*, 23 September 1996, p. 12; 'French Reform Emphasises European Cooperation', *Defense News*, 16 September 1996, p. 66.
78. J. Erlich and Theresa Hitchens, 'DoD Tries to Rekindle Allied Joint Efforts', *Defense News*, 3 June 1996, p. 1.
79. Sparaco, 'Joint Arms Output Seen Bolstering NATO', *Aviation Week and Space Technology*, 1 July 1996, p. 34.
80. Bruce Tigner, 'Germany Says Window for US Industry is Closing', *Defense News*, 22 January 1996, p. 4.
81. 'UK faces decision on future strike-aircraft partner', *Flight*, 20 November 1996, p. 4; J.D. Morocco, 'UK Industry Eyes Greater JSF Role', *Aviation Week*, 25 November 1996, p. 26. The British and French governments have signed an MoU covering joint demonstration programmes to investigate a range of airborne systems to meet the 'Tornado-replacement' requirement. Sparaco, 'UK, France Study Future Strike Aircraft', *Aviation Week*, 6 January 1997, p. 47. British and American firms are also examining the possibility of offering joint bids for a UK-US requirement for a scout-

reconnaissance vehicle. The deal will be based on a fully open competition with no guaranteed level of national industrial participation. Charles Miller and G. Selfers, 'British, US Armies Link Specs for New Vehicle', *Defense News*, 21 October 1996, p. 4.

82. D. Cooper, 'US, Allies Must Forge Common EW Requirements, Tactics', *Defense News*, 14 October 1996, p. 102.

83. Lothar Rühl, 'Franco-German Military Co-operation', *Strategic Review*, Summer 1988, p. 53.

84. Ian Kemp, 'French and UK navies follow Air Group's lead', *Jane's Defence Weekly*, 13 November 1996, p. 14.

85. 'Multinational forces and the harmonization of the European Armies' equipment', GICAT Symposium, Paris, 27 June 1996.

86. Rutten, *op. cit.*, p. 29.

87. Mathias Jopp, 'The Strategic Implications of European Integration', *Adelphi Paper* 290 (London: Brassey's for the IISS, 1994), p. 69.

88. C. Barry, 'NATO's Combined Joint Task Forces in Theory and Practice', *Survival*, vol. 38, no. 1, Spring 1996.

89. M. Rogers, 'Germans plan London visit to discuss air force missile plan', *Flight*, 13 November 1996, p. 3.

90. Any question of hardware cooperation would certainly call into question the United Kingdom's link with the United States, and at the moment the British have no interest in undermining the relationship prematurely by talking seriously with the French. As the initial debate on the French proposal of *dissuasion partagée* (shared deterrence) indicates, deterrent strategy for Europe is more of a political question to be sorted out with not only the French, but other European countries.

91. By its nature, this work may be highly secret. The United Kingdom is known to have some active programmes investigating the RMA, and the French are keen to develop its space-based elements. The main need may be a question of teasing out of national sources a common R&TA programme and some draft operational requirements. See 'The Future of Warfare', *The Economist*, 8 March 1997, pp. 23-6.

92. Davis, *op. cit.*, pp. 84-5.

93. Peter Schmidt, 'Defence and European Security - a European Perspective', *RUSI Journal*, December 1995, p. 11.

94. GICAT, *op. cit.*

95. Davis, *op. cit.*, pp. 84-5.

96. This is not to underestimate the problems even here. They would include, for example consideration of the costly and politically sensitive areas of space-based assets and heavy-lift transport requirements.

97. House of Commons, *Western European Union*, op. cit., para. 41.

98. Lok, 'EU group moves ahead on common arms policy', *Jane's Defence Weekly*, 3 July 1996, p. 4.

99. Interview with French industrialist, Paris, January 1997.

100. De Vestel, op. cit., passim.

101. Walker and Gummett, op. cit., p. 28.