

**GREEK SECURITY POLICY IN
THE 21st CENTURY**

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ISBN 978-960-8356-20-7

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The Hellenic Foundation for European and Foreign Policy (ELIAMEP) was founded in 1988 and operates as an independent, non-profit, policy-oriented research and training institute. It functions as a forum of debate on international issues, as an information centre, as well as a point of contact for experts and policymakers. Over the years, ELIAMEP has developed into an influential think-tank on foreign policy and international relations issues. ELIAMEP neither expresses, nor represents, any specific political party view. It is only devoted to the right of free and well-documented discourse.

INTRODUCTION

The study aims to provide a comprehensive overview of Greek security policy in terms of description of the regional security environment, threat assessment, defence planning, defence industry, current and future procurement decisions, participation to the European security architecture, soft security threats and challenges and policy options.

The analysis of trends, threat assessment, predictions and recommendations were on a medium- to long-term basis, covering the next ten years (keeping, of course, in mind that ten years in the extremely fluid current international system is a rather long-time and many predictions and policy prescriptions may become quickly outdated and obsolete).

The authors of the study were a group of extremely experienced and knowledgeable (retired) military officers and analysts/experts. Overall responsibility for the executive summary and the policy report lies, however, with the Hellenic Foundation for European and Foreign Policy.

The study is based on the following assumptions:

- a) Being located in the southeastern part of the EU, in a region still ridden with conflict, instability and risks for European security, Greece wishes to become an indispensable component of the European security system, in both the military and soft-security dimensions;
- b) There will be no significant increase of Greek defence expenditures. If anything, Greek governments will attempt to further reduce military spending. At the same time, Greece's demographic problem will not improve, resulting in a smaller and ageing population, and thus having a negative impact on the Armed Forces. Migration has served as a "demographic booster", at least in the economic field, but can do little to alleviate manpower problems in the military sector;
- c) There will be only marginal improvements in the technological capabilities and financial situation of the Greek defence industry. Therefore, Greece will continue to cover the vast bulk of its defence procurement needs through imports from its European partners and the United States, with Russia and Israel as possible suppliers;
- d) The regional and international environment will remain fluid and unstable. There will be continuing concern about international terrorism, transnational organized crime, illegal migration and failed/failing states. For reasons of geography and economic affluence, Greece will be strongly affected by those trends;
- e) The European and transatlantic dimensions of Greek foreign policy are of increasing importance. The process of Greece's deeper integration into the

European political, economic and security architectures will continue at a steady pace, with the country aiming at being at the core of any future project for deeper European integration (opinion polls over the past several years show a steady and strong support for this strategic choice). At the same time, it will be essential for Athens to maintain good working relations with the United States, the preeminent strategic actor in the Eastern Mediterranean. The country's orientation will continue to be Euro-Atlantic, with a perhaps rather slow, but continuous shift towards the European pillar;

- f) It is not expected that there will be spectacular changes in Greek-Turkish relations, although the possibility of a breakdown in Ankara's membership negotiations with the EU, and the subsequent [negative] consequences for bilateral relations with Greece, cannot be excluded. The full resolution of Greek-Turkish problems through negotiations is not considered as a highly probable development in the short- or medium-term. A return to a high-tension relationship is slightly more probable, but still quite unlikely;
- g) Greece's armed forces will, for the foreseeable future, have one primary and one secondary mission: the primary will be to deter external threats and challenges to Greece's territorial integrity and vital interests; the secondary will be to participate to the European Rapid Reaction Force and other EU and NATO's multinational forces and in international stabilization and peace-support operations, under the UN, EU or NATO auspices. Another mission, connected to the secondary one, will be to provide assistance, when necessary, to Greek security services in their effort to deal with transnational "threats".

The study is divided in the following parts:

- (a) Greek security policy
- (b) The Hellenic Armed Forces
 - (i) Army/Land Forces
 - (ii) Air Force
 - (iii) Navy
- (c) Defence expenditures
- (d) Defence Industry
- (e) Greece in the European Security Architecture (ESDP & NATO)
- (f) Transnational threats
- (g) National Intelligence Agency
- (h) Main conclusions and recommendations

MAIN CONCLUSIONS AND RECOMMENDATIONS FOR GREEK SECURITY

Despite being a member of the EU and NATO, Greece is geographically situated in a conflict-prone region where the use of force in inter-state relations may still be considered as an option. Therefore, in order to safeguard its security, the challenge for a status quo country like Greece in the early twenty-first century will be to broaden and deepen its ties with its EU and NATO partners, at a time of internal and external adaptation of these organizations.

At the dawn of the 21st century relations with Turkey will continue to dominate the Greek foreign and security policy agenda. Athens has no wish to border a 'lone wolf' Turkey. It is in Greece's interest that Turkey remains firmly anchored in the Western harbor and engaged in a political, economic and social modernization process. Whatever the short-term course of the rapprochement process, relations with Turkey will continue to remain a top priority concern for Greek foreign and security policy well into the 21st century. It should be mentioned, however, that Greece's self-confidence has been steadily increasing as a result of its membership to the EU and the country is slowly moving away from the "Turkish obsession" of previous decades and has been implementing a multi-dimensional foreign policy.

The changes introduced to the Balkan political scene since the end of the Cold War, the collapse of communism, the break-up of the former Yugoslavia and the emergence of a number of successor states (in the post-Dayton era) clearly highlight the magnitude of the stakes that the new regional environment has brought to the fore; they also render imperative the need for Greece to define an appropriate strategy to meet the new threats and risks that the new century will entail.

Greek foreign policy officials and decision makers, in an effort to formulate a policy that would both promote Greek national interests and be compatible with the policies of the EU and NATO, are assessing developments on a number of issues of high importance, including the EU's Common Foreign and Security Policy (ESDP) and Greece's contribution to the European Rapid Reaction Force; EU and NATO enlargement; the transatlantic relationship; burden sharing in the context of NATO and the gap in military capabilities between the two pillars of the Alliance; relations with Russia; new asymmetric threats in NATO's southern flank; and general concern about the south as a zone of instability in a region of vital interest for the West.

To deter threats to its security, Greece relies on internal (strong Armed Forces) and external balancing (participation in all West European security and political organizations [NATO, WEU, EU] and signature and adherence to practically all

multilateral arms control agreements and international export control.¹ More specifically, to deter the perceived Turkish threat, Greece, for many years, relied mainly on international law and agreements, as well as the mediating role of the U.S. NATO, and the UN. As this policy proved rather ineffective, Greece began to place more emphasis on internal balancing (through the strengthening of its Armed Forces) and less on membership in NATO and the bilateral relationship with the United States (mainly as a result of Turkey's membership to the former and "privileged" relationship with the latter). In the last decade or so, Greece placed increased importance on its "European card". Today, Greece relies on a mixture of diplomatic maneuvering, the strengthening of its Armed Forces and its membership to the European Union in order to balance Turkish military superiority, as well as other challenges to its security.

The new security environment and the need for security sector reform

For most countries, security today is primarily measured in **non-military** terms and threats to security are non-military in nature. These threats include – incompetent government, corruption, organized crime, insecure borders, smuggling [weapons, drugs, contraband, people], illegal migration, ethnic and religious conflict, proliferation of weapons of mass destruction, shortage of natural resources [e.g., water] and; of course, terrorism. As security is no longer just a military concern, it is no longer just the preserve of MODs and MFAs which have to date been the main ministries involved in security cooperation. It is no longer possible to draw a clear distinction between external security and internal security. Security henceforth requires the coordination of the 'external' ministries [i.e., MOD and MFA] and their agencies [armed forces, intelligence services] with those of the 'interior' ministries: internal affairs; finance; transport; environment; health; etc., with their agencies [policing forces, security services, disaster relief agencies, etc.]. An example of the large number of ministries and agencies involved in dealing with terrorism is provided in the diagram below. Security today takes in social development and it demands the involvement of all elements of society in a way which security in the Cold War days did not. Meeting these new security requirements demands fundamental reform of national structures, patterns of investment, systems of government. Likewise it demands the evolution of international institutions on a truly radical scale.

The security sector of a state may be defined broadly as encompassing those elements that have been granted a legitimate and exclusive role in the exercise of coercive power in society to deal with external and internal threats to the security of the state and its citizens. As such, security sector reform (SSR)

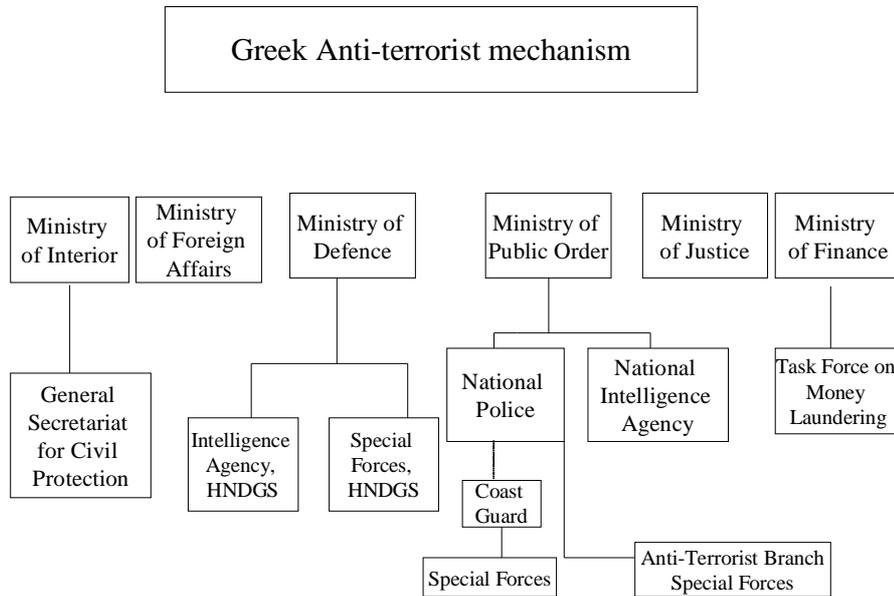
¹ Greece has signed practically all multilateral arms control agreements and is a member of all international export control regimes. More specifically, Greece is a signatory of the 1925 Geneva Protocol, the Antarctic Treaty, the Partial Test Ban Treaty, the Outer Space Treaty, the Non-Proliferation Treaty (NPT), the Seabed Treaty, the Biological Weapons Convention, the ENMOD Convention, the "Inhumane Weapons" Convention, the CFE Treaty and the Chemical Weapons Convention.

encompasses all those organizations that have the authority to use, or order the use of force, or the threat of force, as well as those civil structures that are responsible for their management. The organizations concerned include: military and paramilitary forces; intelligence services; police forces, both national and local, together with border guards and customs services; judicial and penal systems; and the civil authorities mandated to control and oversee these agencies.

The overall aim of SSR is the transformation of security institutions so that they play an effective, legitimate and democratically accountable role in providing external and internal security for their citizens. Institutional reform focuses upon building up their capacities in line with the standards assumed appropriate to the democratic political context. Transformation of the security sector requires broad consultation and includes goals such as strengthening civilian control and oversight of the security sector; professionalisation of the security forces; demilitarization and peace-building; and strengthening the rule of law. SSR is therefore about much more than the internal structure of security forces. It promotes the strengthening of norms in relation to the proper relationship between the security sector and society at large.

To implement such changes in a civil-military partnership requires, among other, a civilian body of experts knowledgeable enough to address defence and security issues with credibility and confidence. Without such civilian expertise decision-makers cannot take hard decisions which are opposed by the entrenched and conservative military staff. Building such an expert civilian security community is the sine qua non of defence and security sector reform.

In dealing with new threats to security and the war on terrorism, non-military elements are becoming more important of late. There is also a strong feeling that these different security agencies (MOD, General Staff, Intelligence Services, Ministry of Interior, Police, Border Guards, Customs, Judiciary) do not communicate between themselves – a fatal flaw in today's new security environment. There is a great need to generate ideas, stimulate thinking and debate on all aspects of security reform, to break down boundaries between different elements of the security establishment and to expand the frontiers of what is considered 'security'. There is an equal need to increase the strength of the 'security community' – the body of military and especially of civilian personnel competent in the new security issues and capable [a] of filling posts in national and international institutions; and [b] educating the population to understand the new needs of security so as to ensure their support through the democratic process.



Areas of necessary coordination in dealing with new security threats include the following:

- (a) In view of the difficulties of coordination between ministries and agencies, the lack of a coordinating mechanism on national security issues (especially if a wider definition of the term ‘national security’ is adopted – as suggested below) becomes even more pronounced. The creation of a **National Security Council** would be strongly recommended;
- (b) The most pressing need would be the upgrading of the Parliament, and more specifically the Committee on Foreign Affairs and Defence, whose role and authority should be expanded and its support mechanism significantly strengthened. Finally, Greece is no exception to the rule that in democratic societies there is a continuing competition between national security and transparency. Although the former is of extreme importance, a functioning system of checks and balances guarantees that there is a relative balance between national security and transparency.
- (c) The Greek security sector will be faced with a number of important challenges: developing and maintaining a ‘critical mass’ of highly trained and motivated officers; increasing professionalism throughout its ranks; resolving problems of inter-agency cooperation and the slow pace of security sector reform, due to the rather low level of awareness about the new security threats among the general public, and the traditional weaknesses of the Greek public administration system; and, last but not least, developing a security culture. The latter should be achieved by increasing the number of civilian experts, as suggested below, but also through improving the professional education system and, importantly, making the mental leap in order to adapt to a new security environment

where Greece is a full member of the developed and 'privileged' West and, therefore, a possible target of non-state actors.

- (d) Finally, like most countries in the world today, Greece still needs to improve its domestic response, particularly in terms of training, equipment, and information-sharing on issues such as money-laundering, cyber-terrorism and cyber-crime, and prevention and consequence management of NBC terrorist attacks. The considerable resources - trained personnel, organisation, equipment, planning and experience - that were used for the security of the 2004 Athens Olympic Games should be fully exploited now that the Games are over. Indeed, the systems developed for the Games will constitute an important post-Olympic legacy, leaving Greece with a high quality infrastructure in terms of equipment and trained personnel.

The Games' 'security legacy' (personnel, equipment, expertise, know-how, planning) will, if properly exploited, 'introduce' Greece into the 21st century security environment of asymmetric threats, allowing the country to protect its national security and contribute to international efforts to deal with such problems.

THE HELLENIC ARMED FORCES: POLICIES, TRENDS, RECOMMENDATIONS

Some general observations

(a) Joint Capabilities

Greece's territorial configuration, in combination with the threat and the risks that affect the area, provides the ideal place for applying the principles of jointness. Recently, a joint rapid reaction force was formed ("Delta Force"), which is expected to provide improved capabilities in a short notice. When it comes to jointness, it is not surprising that the Greek Armed Forces are faced with the same problems as almost any other Armed Forces in the world. The cooperation between the three Branches is still not at a satisfactory level.

The problems range from lack of experience in joint cooperation and the low willingness to cooperate jointly, the lack of sufficient systems of communication and exchange of information, and deficiencies in the planning process and the competence in the decision-making. The measures which could be taken to promote much closer cooperation between the Branches and, therefore, the strengthening of their collective capability, in conditions of peace, crisis or war, would include the following:

- Creation of a joint operational staff under the Hellenic National Defence General Staff (GEETHA), following the British model (Permanent Joint

Headquarters), for the conduct of various kinds of operations.

- The Branches will be responsible only for matters of personnel, logistics and training, and then CHOD will bear the responsibility for conducting the operations.

- Strengthening the role and improving the training for the Forces of Rapid Reaction, under the CHOD. These forces should have complete manning, high degree of readiness, proper equipment and effective plans.

- Strengthening the capabilities of collection and analysis of military information. The system will be strengthened with the full use of the recently acquired UAVs, even if the existing system is rather small, compared with other modern intelligence systems.

- Creation of a unified joint system of Command-Control and Communications. The advertised C⁴I system (Command-Control-Communication-Computers-Intelligence) exists in rather embryonic form. The expansion of military internet will satisfy the requirements of staffs at all levels from battalion up to ship and combat aircraft. Afterwards, the creation of an effective ISTAR system (Intelligence, Surveillance, Target Acquisition and Reconnaissance) will be sought, to provide the capability to conduct Information Warfare.

- The logistics (hospitals, food, clothes, fuels, service stations, common supplies) of the three Branches should be placed under a single joint command to achieve economies of scale.

- The CHOD has to determine the priority of procurement programmes for the main systems, in order to equip first the forces of rapid reaction and the other spearhead forces.

- Institutional strengthening of the recently established General Secretariat in the Ministry, to handle the subjects related to Defence Policy. This staff will be manned with permanent personnel (military officers, diplomats and experts) that will not be affected by the change of the Minister or the government. This way the CHOD will focus solely in the operational matters while the civilian element of the MoD will be responsible for defence planning. This distinct separation of responsibilities should not exclude, but rather should encourage, the close cooperation.

Military Training and Education

At the moment, the military education and training system has not followed the modernization of the main equipment. It can be argued that the conditions have matured to promote changes, in the following direction:

- The initial education of Officers in the military Cadet Academies has to be focused primarily on the academic education, with particular emphasis in the courses of leadership and management, modern technology, information technology and foreign languages. The military education should take place in the brigades, in such a way as to gradually familiarize the students with the equipment and the tactics before going for first time to the units.

- Combining the use of various weapon systems and allocated means (e.g. main battle tanks with artillery, antitank, attack helicopters, aircraft, ships,

and the reconnaissance means).

- The system of training has to support the improvement of fighting capabilities at various levels.

- Improving the fighting and staff capability of professional military personnel with education for life, adapted in the developments of modern technology and the requirements of military science, according to the international models and the national needs.

- Closure of the basic training centres (a total of 31) and conduct of the full training cycle in the brigades and other units (German model). This will reduce the costs and increase the conscripts' staying time in the units.

- Promoting the significant reduction of bureaucracy and disengagement of personnel from the staffs and offices (the objective should be a 30% reduction in one year), so that they participate in the daily operational - training activities of fighting units.

- Especially in the armoured units, but in general as well, establishing a new training methodology which will be based on simulation techniques and the continuous evaluation of the individual and the crew, in combination with modern and sophisticated training/firing areas where the companies and battalions will be evaluated. After procurement of so many means, it is now the proper time to combine their use and exploit their capabilities through the improvement of combined training.

HELLENIC ARMY

The mechanization for the majority of the Army's brigades in the continental region was one of the main changes that took place between 1996-2000. The planned reorganization of 2000 was delayed and finally a new reorganization was announced in 2005, which resulted to the elimination of only a few units with low levels of personnel anyway. The procurement of major equipment between 1996-2004, gave the opportunity to integrate new technologies, but was not combined with the appropriate changes in the structure, to make the Army more effective with less cost and more flexibility.

The new procurement programme for the coming years was announced in 2005. There are two separate plans, the "realistic" from 2006 to 2010 (1st phase) and the following plan that covers until 2015 (2nd phase), with an extension to 2020 (3rd phase). The total budget is estimated to be 22 billion Euros, while the Army will receive 37.17% of this amount. Even if the defence budget is reduced below the level of 3% of the GDP, for the first time since 1974, the programme is ambitious, and in a few areas focuses on the integration of the procured "big" systems from the previous years. The priority in this case is given to transport helicopters, infantry fighting vehicles, C⁴I systems, spare parts for the maintenance of the existing systems and ammunitions.

The Military Transformation (Key decisions to be made in the short-medium-and long term, toward a more effective and cost-benefit basis)

The Army is characterized by the tendency to enlarge in number, extend geographically, and reduce training time. In order to become capable of facing threats and regional risks, the army must:

- Train for threat and risk management and for international obligations.
- Close units that are not operational.
- Close small training centers.
- Close the headquarters that decrease flexibility.
- Close units of logistical support that do not enhance a modern military.
- Re-consider the necessity of maintaining obsolete means and munitions.
- Rely on operational armored and mechanized units for the defence of continental regions and rely mainly on lighter units with special equipment for the defence of islands.
- Merge military factory work in sectors where possible.
- Apply joint function to the Command and Control systems.
- Promote jointness, in the fields of intelligence, planning and operations.

Could one suggest different priorities for the Procurement Plan?

The ten-year Procurement Plan was unofficially published in various military magazines in July 2006. At the same time the Plan was discussed in the

Parliament (Foreign Affairs and Defence Committee), but only as a generic plan without the government providing any details. The published priorities seem to be balanced among the Branches; especially the top priorities for completing the national and international missions are considered to be in the right direction. However, there are significant shortfalls for recognized needs which were not sufficiently well-coordinated among the Branches, apparently as a result of mutual compromise. For example, the C⁴I satellite system had to be linked with additional joint flexible, reliable and deployable communications. The additional 10 transport helicopters are considered to be the minimum number for the requirement to transport troops to the geographically isolated continental or islander areas. A number of naval priorities are considered as excessive (5 naval reconnaissance aircraft, 2 naval training helicopters, modification of 2 frigates into training ships). Some other programmes are not well-coordinated between the Branches, such as the long range UAVs.

For having a comprehensive procurement plan that would enable the Armed Forces to conduct the missions in a joint mode and not as separate missions for the three Branches, one should formulate a different plan oriented to capabilities' requirements for confronting the threat and the risks. For this purpose, the procurement plan should start with the following priorities:

- C⁴I with the related Communications, Intelligence and Target acquisition systems (satellite, UAVs, SIGINT, etc).
- Transport means, including helicopters and fast transport boats.
- Smart weapons, such as laser guided bombs and munitions.
- Special Operations equipment and means.
- Long range (stand-off) weapons for the navy and air-force.
- Search and Rescue systems.
- Joint Logistics systems.
- Spare parts for the existing systems.

The above should be considered as top priorities. The other needs including the procurement of main systems (aircrafts, ships, fighting vehicles, tanks etc.), could be considered in a following list. For the land forces the priority systems should include the following:

- Ground reconnaissance systems and UAVs
- Transport and special operations helicopters
- Attack helicopters
- Infantry Fighting Vehicles
- Fast transport boats
- Special Forces and Marines equipment
- Simulation means for realistic training
- Spare parts and ammunition (combat and training) for the existing equipment and weapons
- Links with Air Force and Navy for combined-joint operations.

Current Trends and future challenges

The Army's current goals are reflected in the following priorities:

1. Support, modernize and upgrade existing systems as well as the supply of essential munitions for battle loads and training. This will exploit systems' operational capabilities. This will also extend the circle of life and the availability of the procured equipment.
2. Fill personnel deficit with professionals and shift personnel from lower readiness units.
3. Supply Command and Control systems and gradually integrate with Information, Surveillance and Targeting systems.

During previous years, the priority was the acquisition of new equipment. Today, the priority should be the Army's re-structuring, integration of the existing systems and finding cost-effective solutions through a more linear and flexible Army with joint capabilities, in order to maximize the required effectiveness for the national and international missions and obligations.

HELLENIC AIR FORCE

After studying the published programmes and cross-checking them with other sources, which take into consideration the economic dimension, *our estimate* is that the equipping programmes of the next five years, which either fall into the HAF programme, or are common with the other Branches, are the following:

1. Development of the basic part-network for the Satellite Communication System of the Armed Forces. It is a common programme for all branches and the investment for a 5-years period is €161 million. Information shows that the first demand will be for a "Ku" Band.
2. Acquisition of thirty (30) 4th generation fighters. According to a statement by the Minister of National Defence in March 2006, this programme has a budget that exceeds €3 billion.
3. Exercise the option right for three (3) additional transport C-27J aircraft. The requirement has been approved at the HAF level and is now in the MoD for final approval.
4. Participation in a joint venture BOC-HELLIOS. The programme is common with the other Branches and will cover the need for the reception of earth observation satellite images. There will also be acquisition of the necessary ground station, with upgrading capabilities so as to receive images from a radar satellite. The cost of the programme has been estimated to be €120 million.
5. Acquisition of 15 SAR helicopters and 2 VIP. The cost has been estimated to be €270 million. This programme to improve the country's capacities in SAR for the whole surrounding sea area is urgently needed.
6. Installation of self-protection systems in 10 C-130H, 4 or 6 CSAR Super

Puma helicopters and 12 or 15 C-27J. The total cost reaches €155 million. Preparations and preliminary actions to hold an international bid have already begun.

7. Acquisition of 40-45 Advanced Jet Trainers, which in HAF's opinion should be operational around 2010-11. The estimated total cost is €1.1 billion.
8. Ways to improve security of air-to-air and air-to-ground-to-air communications will be investigated. The estimated cost is €15 million for the systems and €15 million for the necessary modifications to aircraft.
9. Acquisition of the AACMI system for operational training in fighters (it is not known yet if the same system can be applied both in the F-16 and the M-2000 aircrafts). The budget is €25 million.
10. Acquisition of the necessary air-to-air and air-to-ground weapons through FMS for the thirty (30) new F-16 Block 52+s.
11. Aircraft modifications in order to install the LINK 16 have a budget of €30 million. This programme may be delayed beyond the 5-year period, as it is affected by other factors.
12. For the HAF operational needs, the acquisition of an AAR capacity has been programmed with an estimated budget of €750 million. This plan involves the acquisition of at least four aircraft after the 5-year period of 2006-2010. Nonetheless, in October 2005, during the Meeting of the EU Ministers of Defence, it was decided that the EU member states would jointly examine the AAR issue. Greece will participate in the AAR *ad hoc* Group to examine the matter. The Ministers will re-examine the issue in their forthcoming meeting and will reach a decision.

Future Acquisition Programme (after the first 5-year period)

After the first five years, the HAF has a number of acquisition programmes which cover all operational needs. The most important programmes are the following:

1. If the HAF decides to procure a first batch of only 30 fourth-generation fighter aircraft, then there will be a need for an additional procurement programme during this period;
2. There is a programme for the acquisition of BVR missiles in two phases. The number is not precisely set;
3. Acquisition of LANTIRN systems;
4. There is a programme to obtain various weapons, such as anti-radiation missiles and HTS, IIR missiles, various battle and training ammunition, ammunition for anti-air attack weapons, STAND-OFF missiles, air-to-ground weapons, missiles for SHORAD "VELOS," etc;
5. The acquisition of the proper UAV in two phases is planned, whose operational mission focuses on electronic warfare but also on SEAD (Suppression Air Defence) with ECM;
6. Upgrading of the radar and of the mission computers of the F-16 Block

- 30;
7. There is a programme to obtain in two phases various vehicles to support all the operational work of the aircraft;
 8. A programme exists to obtain UCAVs;
 9. There is a programme to obtain two HSAM systems of wide range in the framework of the study on a unified air defence;
 10. With the withdrawal of the C-130B/H in mind, the HAF has planned to replace them with another transport aircraft;
 11. The programme includes a possible expansion of the terrestrial part-network of the Satellite Communication System of the Armed Forces (maybe into the "X" band);
 12. An upgrade of the M-2000 aircraft is planned;
 13. There is a programme to obtain a number of SHORAD;
 14. A possible exercise of the option for 3 additional M-2000-5MK2 aircrafts is planned;
 15. The construction of a modern fire ball field as well as armament release field for pilots' training and for various armament systems certification, has been planned;
 16. Acquisition of the necessary SQOC and WOC for units from which fighters will operate.

NOTE: SQOC: Squadron Operation Center
WOC: Wind Operation Center

Apart from the above mentioned programmes, there are also other needs (operational, maintenance, improvement, etc), which have been programmed to be covered gradually. At this point there is no reason to mention them more analytically.

Key issues for the future

There has been a tendency in the last years, not only in the Greek **Air Force** but also in many other Air Forces around the world, to put emphasis on a double role for fighter aircraft. This is by no means a mistake; on the contrary, it has operational and economic advantages. However, this is not a rule that should be applied extensively in all cases. The advantages-flexibility that the multi-role fighters and their operational applications display, have to be evaluated objectively, taking into account the overall capabilities, requirements, threats, priorities, as well as the doctrine of every operational user, separately.

Perhaps the most important factor, determining the priority and the balance between fighters' air-to-air and air-to-ground capabilities, is the type of "deterrence" that better supports the Hellenic Defence Doctrine, in conjunction with the existing threats and challenges. Taking into account all the involved parameters, it is believed that "deterrence by denial" is of higher importance compared with "deterrence by punishment", which should be treated as an

option of last resort. Deep-strike capabilities are not a top priority for Greece in the context of its deterrence by denial strategy and on the basis of the current capabilities. Stealth features should be considered as a very useful but not absolutely necessary required capability for the 4th generation fighter aircraft. Instead, the acquisition of counter-stealth capabilities should be seriously considered by the HAF to deal with the perceived threat.

The HAF figures of today (approximately 215 3rd generation fighters by 2010, plus possibly 30 4th generation fighters), the figures of the corresponding threat for that year and foremost the operational needs for HAF's successfully carrying out its mission, namely deterrence and superiority if so required, lead us to re-examine the above rule for dual role aircraft.

Acquiring an aircraft whose main role will be air-superiority in regions of interest will release a substantial number of 3rd generation fighters not only for air-to-ground targeting missions, but also for other special missions. This combination, we believe, will provide maximum flexibility and will bring the best results, compared to other choices. This option, of course, does not mean that the 4th generation fighters which will be obtained should not be able to effectively perform air-to-ground missions. However, their best performance and emphasis should be placed on air-superiority missions, while at the same time being able to run air-to-ground or swing role missions, when it is so required (carrying mixed armament).

The other element, which has not been clarified so far, is the total number of needed 4th generation fighters for the HAF. We do not believe that the announced figure of 30 such fighters is the final number. If there is another order of 4th generation fighters later, it will be another more serious mistake, mainly in terms of economic and industrial development. Our opinion is that if the HAF wishes to be in a position to execute its mission, then it should decide as early as possible about the total number of 4th generation fighters that will be needed by 2020. Greece will then be able to negotiate much more efficiently with the supplier and achieve political, economic and technological benefits. Additionally, by 2010 the HAF will have to decide what will be done with the oldest F-16s.

HELLENIC NAVY

The Navy should maintain technological superiority. The acquisition of force multipliers, in the form of C⁴I systems, advanced weapons and electronic warfare systems should be a priority. The acquisition of over-the-horizon maritime-borne strike capability will provide a significant operational capability and a strategic advantage against potential aggressors. Sustainability in the conduct of maritime operations in the Aegean cannot be neglected.

It seems that the multi-role Frigate will continue to be the main unit of the Hellenic Navy. A modern multi-role frigate has operational capabilities in line with operational requirements, personnel limitations and logistical support capabilities. Increased air defence capabilities in the field of area defence, which are absent from current operational capabilities, should be given high priority. With the decommissioning of Adams class DDGs, the Hellenic Navy does not possess an area defence AAW capability. Current plans and programmes do not consider a replacement for the Adams class DDGs; corrective action is necessary.

The major “malaise” is the lack of a timely planning and execution of procurement and modernization programmes. There are many and varied reasons for this problem. Firstly, there are postponed staff processes. The staff process, in most cases, starts late with regard to the ship’s age. This is a result of the Greek bureaucracy not thinking ahead of events unless compelled to do so. When the process starts it must follow certain stages. These stages are rarely completed on time. The reasons for this range from the lack of a clear picture of what is needed, which causes changing specifications and operational characteristics and ultimately delays the final decision, to the proper and timely selection of who will conduct the work.

For decades following WWII, the Hellenic Navy was basically comprised of second-hand ships, mainly ex-USS. Circumstances now allow the adoption of a new procurement policy. An operational life limit of 30 to 35 years for warships, which will foresee a mid-life modernization at 15 to 18 years, will certainly be quite beneficial. It will allow for better planning and timely preparation of necessary modernizations, smooth the transition to new units, and ultimately, guarantee a better performance. Of course, such a policy cannot be implemented overnight. Full implementation may require 10 to 15 years. A long time in a human life, but rather short compared to a nation’s. Bold decisions, consistency, and faith in the end result are required.

There are two persuasive points that will convince the political leadership to commit the considerable funds necessary for the implementation of the above policies. The Navy already pays for its own acquisitions and will continue to do so. The Navy also has a strong ace at its hand, the Hellenic shipbuilding industry. The abilities of the domestic shipbuilding industry have been exploited in the past, by building a number of ships, even a batch of frigates (MEKO class), but always on an individual basis, not in the context of a consistent policy. Modern warship building technologies, like that of modular design –the ability to put on the same platform different weapons system- allows ships, equipped with the desired weapons systems, to be built in Greece. Such a policy will profoundly benefit the Navy as well as the national economy. As a further step, in the context of this policy, the Navy may proceed with the design of the ship(s) according to its desired specifications, in cooperation with the domestic shipbuilding industry. This will help to match ship specifications with the Navy’s needs and operational requirements, rather than hoping that ships built for a different operational environment will adapt to specific operational

circumstances. The Navy has the required knowledge and the properly educated people for such an endeavour. What is lacking is self confidence or, more accurately, confidence in the Navy staff's abilities.

In order to improve warfighting capabilities, special attention should be given to effective information management, through the use of proper tactical and communication systems. The war fighting problem is simple: look at the theatre of operations, exchange information with other units and with headquarters, and direct weapons to the target. However, the information is so abundant that it will saturate the tactical picture if not properly handled. Therefore, information management is necessary to achieve desired results. This, in turn requires compatibility not only between Navy units, but with other services, primarily the Air Force and secondarily, the Army. The nature of the Aegean operational theatre and the proximity of the potential aggressor make necessary the continuous improvement of the speed of command –the ability to rapidly collect information, make an assessment, and execute a decision- which, in sequence, improves war fighting capability. Therefore, Navy units should be equipped with suitable tactical and communications systems, compatible not only between themselves, but with other services and suitable weapons systems for the potential operational theatres.

The implementation of such proposals would be a revolutionary change in the way the Hellenic Navy functions and operates. Revolutionary change has no chance of success unless it fully exploits the most valuable recourse it possesses, the human factor. No weapon system can perform effectively without expert human involvement. Navy personnel management has remained unchanged for the past thirty years, despite significant innovations in naval technology. Adjustments should be made to personnel management and training techniques so that the human factor of the Hellenic Navy can be in a position to perform as new circumstances demand. Changes in training are the first priority. Ignorance of, or non-familiarity with the use of IT systems, at all levels, prevents the maximum utilization of modern weapons systems. Proper training at War College level will develop strategic thinking at the highest levels of command, and the maintenance of seagoing skills and abilities cannot be overemphasized.

What has been said until now has been restricted to purely naval affairs. However, there is another item in the defence agenda which extends beyond the Navy's sphere, that of cooperation between the Armed Forces (jointness). Today, the significance of conducting joint operations is generally accepted; however, very little progress has been achieved in this direction. The Navy's role is joint by nature. Fundamental tasks cannot be accomplished effectively unless they are conducted jointly. There are many things to be done for the implementation of a joint doctrine, in a broad spectrum of fields.

In the field of armaments, interoperability of tactical and communications systems, owned or procured by the three services, is a necessity. In the operational field, the existence of a joint command in the Aegean, to conduct

activities at the operational level, is another necessity. Proper joint education at staff college level will ensure proper joint operational functioning. Currently, the most profound example of jointness, the amphibious force, is divided operationally and administratively between two services and surveillance operations in the Aegean are conducted again by separate services. Jointness does not only provide certain operational advantages; it also saves taxpayer money and promotes clever and efficient spending. But nothing can be changed unless correct education is acquired and services' narrow mindedness is set aside.

The latest NATO Command Structure, approved in June 2004, foresees the creation of a Maritime Interdiction Operations Training Center in Souda Bay, to provide training for Allied Maritime units in the conduct of Maritime Interdiction Operations. The Center will have a multinational staff and will be directed by a Hellenic Navy flag officer. It is quite obvious that, in the contemporary strategic environment, this Center will provide valuable services to the Alliance and will strengthen Greece's role within it. However, three years after the decision there was rather limited progress towards the establishment of this facility. It is quite important for the Hellenic Defence leadership and the Navy's in particular, to apprehend the significance of this training facility for the Greece's benefit and speed up necessary actions for its establishment and operation.

DEFENCE EXPENDITURES

Greece is a member of both NATO and the European Union, having joined them in 1952 and 1981, respectively. In the pursuit of national security, Greece has over the years allocated substantial human and material resources to defence. In comparative terms, it is the most militarized country in NATO and the E.U. Expressed as a share of GDP Greek military spending has invariably been higher than the E.U. and NATO averages. For example, in 2004 it stood at 4.2% of GDP which is more than double of the corresponding NATO and EU averages. Indeed, Greek defence spending expressed as a share of GDP is by far the highest in the EU25 group of countries.

In many respects, when compared to other EU and NATO members, Greek security concerns present a unique case that is reflected in the level of resources – both human and material - the country yearly allocates to defence. The Greek defence effort that the various indices reflect, cannot be explained only in terms of the broader western security priorities as they have evolved during the bipolar era as well as in the post-bipolar period. Greece has long regarded Turkey, another NATO ally, as the main threat to its security interests. Thus, during the Cold War the country's external security concerns were not only the WTO countries but also its neighbour and NATO ally, Turkey. In fact, Turkey is perceived by Greek security and defence policy as the main and most imminent source of external threat to its sovereignty and national interests.

In particular, Turkey is the prime security concern for Greece and as long as the core of their differences remains unresolved (namely Cyprus and the Aegean), Greece will continue to invest resources to its defence capability. Allowing for the fiscal constraints and the fact that Greece has to fall in line with the provisions of the *Stability and Growth Pact* for the Eurozone group of countries it is expected that military expenditures expressed as a share of GDP will in the next years exhibit a slight downward trend. A reasonable expectation is that they will oscillate around 3% to 3.5% of GDP which, compared to the 4.5% of the 1988-2004 period would, if realised, represent an appreciable decrease. Yet, this expectation is conditional upon Greek-Turkish bilateral relations. If they deteriorate from their current state, defence spending may again reach its "traditional" levels. A crucial factor that will influence the relations of the two countries is the progress of Turkey's EU candidacy and aspiration to full membership. If this falters, then Greek-Turkish bilateral relations could again regress to tension and friction.

Defence procurement and defence industry

Systematic efforts to develop a defense industry in Greece began in the mid-1970s (although several industries existed long before that date). The objectives were to satisfy national military needs, to increase the participation of domestic manufacturers, and, at the same time, to reduce dependency on foreign military

suppliers. From a technological point of view, the effort was successful. Greek defense industries produce a wide variety of equipment for the needs of the Hellenic Armed Forces, although success in exporting defense equipment to other countries has been very limited.

There have been significant economic problems caused by a number of factors: the small domestic market, which seriously affects the viability of production lines; adoption of inefficient management methods, including delayed response to technological developments and the changing needs of armed forces; the rather inefficient use of offsets, agreements, and memoranda of understanding [MoUs] with countries such as France, Italy and UK); and military assistance programs (mostly from the United States and Germany) that have hurt the industry to a certain degree.

As a result, some of the state-owned industries have been privatized (the process is already under way) in order to survive and eventually become competitive. Furthermore, it is generally agreed that the only way for the Greek defense industry to survive is through the participation to multinational projects.

For the first time for this country, there is an effort for long – term planning and a fifteen – year plan for procurement goals (FPfPG, covering the years 2005 – 2020) was brought to press recently (March 2006). This plan prescribes all needs of the armed forces for the years to come, sorted by perceived importance, and the total value of these needs is currently at €52bn. As expected, this list of procurement programmes will be changed and reviewed according to the development of the defence environment of the country. This long – term plan will be implemented through five-year plans called JMAPs (Joint Medium Term Armaments Program). At present, the government has approved to use €1.9bn annually (that is, €19bn for the years 2006 – 15, not adjusted for potential increase of GDP) for the country's defence expenditures.

This would mean that for the 2006 – 2015 JMAPs the government has at present allocated €22.1€bn, which include €5.1bn for existing liabilities. There are also two alternative JMAP scenarios for the same period (one with a total value of €36.7bn and the other of €51.9bn), that are considered highly unrealistic. The existence of these scenarios should be attributed to the probability that some programmes might be rolled – over to be materialized by 2020, or to the probability that the financial situation will be better than expected.

Prospects of the Greek Defence Industry

Beginning this section with our view, we feel that firms of the Greek defence industry are generally better prepared and ready to face the challenges of the future, as compared to the average firm engaged in the relevant industrial sectors. Below, we explain why we believe it is so. Before we turn to the viability prospects of the Greek defence industry, let us divert to note that the Greek

Manufacturers of Defence Material Association (SEKPY) is the association representing the defence industry, but as yet the members have not been successful in forming common strategies or in coordinating their activities.

As far as the state – side is concerned, it is characteristic that back in 2002 Kollias and Rafailidis wrote that *“until recently there had been no attempt to prepare a registry of firms active in the defence industry sector”*. This means that the state has no way of knowing who is capable of producing what. This situation has at several occasions led to orders being placed to foreign firms even in cases where there were local ones that could produce the same products with high local value added, without worsening the balance of payments.

Moreover, the authors in the same paper noted that *“the aforementioned registry should by now be almost ready”*, as it was under preparation. To our knowledge, this has yet to be achieved. When it is eventually completed (and regularly updated), it will give an idea of what can be produced. However, there is no technological auditing process involved that would enable the state to realize the true technological capabilities of defence firms. Probably, this is a step to be taken in the future, but for the time being we are not fully aware of the current technological capabilities of firms, we are not aware of the pace at which these are enhanced, and we are not aware of the factors that have a bearing upon the evolution of these capabilities. In short, we are not fully aware of the technological accumulation processes within Greek defence firms.

Returning to the prospects of the industry, as noted earlier about 140 firms are members of SEKPY. However, only about forty of these appear to be engaged in defence related production on a more engaged basis, while the others represent manufacturers that have the capacity to engage in defence – related production but this does constitute a regular activity in their annual turnover. Even for the more defence – oriented firms, turnover does not totally originate from MoD purchases, as will be shown later on.

As in all countries, although one refers to the “defence industry” or “defence sector” (firms selling to the defence sector), the firms comprising defence industry are actually engaged in a highly differentiated set of industrial sectors and activities. This is because defence applications require a vast spectrum of technologies and technological capabilities, ranging from plain glass to composite armor and from specialized electrical fuses and nails to complex electronic warfare software.

The Greek defence industry is no exception and the firms are mainly distributed (2002 data, 80 firms) among the metal products and construction (37%), electric and electronic equipment (25.9%), transportation (18.5%), machinery (9.26%) and plastics and rubber sectors (9.26%). Thus, sector – specific factors will only affect the relevant sector and not the industry as a whole.

The firms also export a significant part of their total production. A percentage of 74% of the 80 above – mentioned firms export part of production, while for 28% of those exports constitute more of 25% of turnover. In fact, for 11.5% of firms exports constitute more than 80% of turnover (Rafailidis, 2002). This naturally means that many firms are not totally dependent on Greek defence expenditures.

When compared to the average (non – defence) firm of their respective industrial sector, defence industry firms are significantly larger in fundamental figures like turnover (averaging €32m compared to €6m), number of employees (averaging 376 compared to 59) and net assets (averaging €38.6m compared to €6.6m) (Rafailidis, 2002). That is, defence industry firms are more likely to be able to cope with future challenges, as they are more likely to possess better technological capabilities and more financial resources. Additionally, only part the total defence industry turnover can be attributed to MoD purchases, as is evident from Table 6 above. For the 20 firms with the largest sales to the MoD 41.7% of turnover is related to the MoD and the rest comes from the commercial sector. For the rest of the firms this percentage is significantly lower. These figures generally also mean that defence industry firms are not totally dependent on the MoD.

Finally, defence industry firms are generally relatively well integrated in the modern industrial structures that most frequently require cooperation, collaboration, joint ventures, joint research and development, cost sharing etc. Rafailidis (2002) studied 19 defence industry firms to find that they were engaged in a total of 141 cooperation agreement of various forms (that is, more than 7 cooperation agreements each). Of these agreements 76 regarded the purchase or sale of technology abroad and 45% of those actually concerned the sale of technology from the Greek firm to a foreign client. These figures would certainly indicate that the technological level of the Greek defence – industry firms is relatively high.

Summarizing, the Greek defence industry concerns a set of highly differentiated firms, selling to both the defence and commercial sectors, having a good part of their turnover stemming from exports, having much better fundamental economic indicators than their average non – defence – industry counterparts, and heavily engaged in cooperation agreements. All this does not mean that these firms can definitely survive in the future, especially with declining defence budgets. It means, however, that these firms appear to be better able to cope with the future.

Regarding the various forms of cooperation agreements, we argue that one of the main driving forces for their formation is that there are new emerging core technologies and technological change is rapid, which implies that products are quickly obsolete, and firms need to recover their investment in a much shorter period than was previously the case. This speed of technological obsolescence is quite important and is a by – product of the new techno – economic paradigm

that often leads to discontinuous technological change. Even huge firms cannot go – it – alone and are frequently willing to collaborate, in order to:

- manage to assimilate and endogenize the continuously emerging technologies,

- manage technological risk

- manage the cost associated with the rapid technological change

The self – sufficient and vertically integrated firms of the recent past are now becoming fast extinct. Only very few firms are now capable developing, manufacturing and selling their products or services on their own, while firms that can control state – of – the – art technologies are even fewer.

In contrast with the past then, collaboration, alliances, organizational knowledge and learning, entrepreneurial empowerment and market exploration will be the catalysts for success for the future. This brings us to the argument that for firms in countries like *Hellas* the need to participate in cooperation agreements is a requirement that has become relatively easier and is now a necessary precondition for development. A second powerful trend that prevails defence sales is the fact that offsets agreements with very high values (often higher than 100%) have become an almost indispensable part of any sales pitch, following the decline of defence budgets after the end of the Cold War. Although defence budgets (especially the U.S. one) are now again in the rise, the current marketing practice calls for good “total package” proposals including industrial cooperation of some sort.

Thus, the engagement of the Greek defence industry in cooperation agreements is a sign of successful adaptation to current conditions, both from a purely technological and from a defence – marketing perspective. To further support this argument, below we present the “European spaghetti” of the aerospace industry, indicating that even all main firms are related to each other. Thus, cooperation agreements of all kinds are mainly a result of the current techno – economic conditions and not of governmental choice. They are governed by competitive, industrial, techno – economic and marketing criteria and are mainly firm – to – firm, and not as much country – to – country, relations. Essentially firms from all countries and from all industrial sectors are engaged in cooperation agreements.

The Greek defence industry is already cooperating with European and U.S. firms and there appear to be some origin – related differences in the behaviour of partners. More specifically, U.S. firms for a variety of reasons are more reluctant (or not even allowed in some cases) to engage in true cooperation and relations are more one – way. European firms, on the other hand, appear more willing to share and to engage foreign partners even in the pre – competitive phases of defence programmes. This is mainly because inter – European relations are institutionally easier, while the European defence firms are on average smaller and also address a smaller market than U.S. firms, and so need to find ways to gain a better market share. Given the fact that European firms produce quite a large variety of remarkable systems able to cover most of Greek defence needs,

cooperation with European firms seems to be better suited to the needs of the Greek defence industry.

Participation of Hellenic firms to multinational programmes

For an EU country which annually spends a high percentage of its national product on defence acquisition programmes, we believe it is to her advantage, as well as to the EU's (in practice to the member states that are industrially advanced in the defence field) to participate in joint European economic and industrial programmes.

The involvement of the Greek MoD in joint European programmes has began (BOC-HELIOS, IRIS-T, UCAV, etc) and since the projects agreed to be examined by EDA are of immediate interest for the Greek Armed Forces, it is our view that a serious amount of the capital which Greece invests on defence equipment, is more advantageous to be directed towards a joint European development with participation – to a realistic degree – of the Greek industries.

Regarding the *Greek defence industry*, this mainly consists of about forty firms. In fact, around 140 firms are members of the *Greek Manufacturers of Defence Material Association* (SEKPY). However, only about forty of them appear to be engaged in defence related production on a more permanent basis, while the others represent manufacturers that have the capacity to engage in such production but this does constitute a regular activity in their annual turnover.

Noticeable when examining the Greek defence industry is that it is characterised by a major dualism between public firms, on the one hand, and private manufacturers on the other. In terms of net fixed assets, turnover, and personnel private firms are on average of substantially smaller size than the three public ones i.e. EAB, EAS (Greek Defence Systems, merger of EBO and PYRKAL) and ELVO. On the other hand however, private firms are profitable enterprises while the state controlled defence industries suffer from chronic and persistent losses. Public firms are now beginning to consider consolidating and the start has been made with the merger of the EBO (Greek Arms Industry) with PYRKAL, both firms mainly active in the production of ammunition and small arms. This marriage has met serious difficulties, partly justified by the lack of relative experience. Skaramagas shipyards (Greek Shipyards S.A.), until recently a public firm, is now under the control of ThyssenKrupp Group after passing through HDW. Elefsis Shipyards S.A. is the second major firm in the shipbuilding sector, and this is also at private hands. Countries like France only have one shipyard mainly dealing with naval programmes, so it seems that having two in a small country like Greece is redundant. Indeed, there are discussions under way for exploring the potential for a future merger of Skaramagas and Elefsis (located right next to each other).

There are mainly three important things to have in mind when contemplating defence – related cooperation agreements with Hellenic firms.

The *first* is that the Hellenic is an open market. The country has consistently been (and remains) a major worldwide buyer in the defence market, sometimes making innovative and diversified purchases, giving many firms and countries the opportunity to export and operationally prove their systems. The equipment procured was divided (as by March 2002) by total value between the following countries: USA 35.8%, Germany 25.4%, France 14.6%, Russia 8.3%, Sweden 4.2%, Greece 3.7% and the UK 2.7%. The remaining 5.3% we could not trace. These deals prove that Greece has been, and remains, a comparatively European – oriented country regarding defence. Whenever European systems were operationally competitive and/or cost – effective, or gave the country a differentiated source of supply, they were selected.

Second, the Hellenic offsets guidelines were put forward in 1996 and have not been expressly replaced, despite the changes described in section 3. All defence – related proposals have to be accompanied by an offsets proposal. Regarding offsets policy, the main points worth noting are the following:

(a) The total volume of the Offset Benefits is at least equal to 60% of the foreign currency part of the procurement contract and mandatorily includes subcontracting work/purchase of defence materials and/or production of new products at least 50% of Offset Benefits total credit value.

(b) Multipliers are still in use and can give certain offsets proposals very high, yet practically artificial, credits. This can result in proposals that could on occasion be quite advantageous to the potential supplier. For example, one of the types of offsets concerns the award of subcontracting work to Hellenic firms. In this case the credit formula is $C = N \cdot V$, where C: total credits, V: value of order and N: the credit coefficient. N can go up to 4 for products and services of high technology. Regarding direct investment as an offset, the formula remains but the N coefficient can go up to eight (8). The highest value is given exclusively in cases of high interest industrial investments, mainly for export purposes, which are not competitive to existing Hellenic firms. Direct investment close to the Hellenic borders can have a coefficient of up to twelve (12).

Third, the only other constraint regards the Hellenic Value – Added (HVA), that is defined at a minimum 35% of the work – share assigned to the local industry. HVA is defined as the indirect production cost divided by final price (this practically means percentage of labour cost on final price). The apparent emphasis on labour induces labour – intensive cooperation agreements. Perhaps this is advantageous when the client is a country with a strong emphasis on the creation of work places, as well as when the potential supplier wishes to direct some of the more labour – intensive tasks to a lower cost environment.

The situation, as far as *cooperation prospects* are concerned, is characterized

by the fact that until recently there had been no attempt to prepare a registry of firms active in the defence industry sector. This means that the Greek state and potential suppliers have no way of knowing who was capable of producing what. Moreover, although the aforementioned registry should by now be under preparation, it will actually only give an idea of what can be produced. That is, there is no technological auditing process involved that would enable potential partners to realize the true technological capabilities of defence firms.

The authors believe that in order for a cooperation to be fruitful for all participants, there is a critical issue to be studied: the technological distance between potential partners. We believe there is a minimum technological level that must be reached before any firm becomes capable of cooperating efficiently. Perhaps sometimes Hellenic defence firms are not able to capitalize on cooperation opportunities not because foreign partners are unwilling to transfer technology or know – how, but because they cannot see how they can achieve this transfer while working with partners of a considerably lower technological level than their own.

Perhaps it is an intermediate technological distance between partners that can improve the potential for successful cooperation. This “intermediate” technological distance between partners means that, on the one hand, the local partner has the technological capabilities required to comprehend the technology of the foreign partner and, on the other, that there is ground for mutual understanding and for a common culture and language between partners.

Too great a technological distance means that the technologically less advanced firm could learn a great deal from the more advanced one, but lacks the capability to sufficiently comprehend and accumulate the latter’s technological capabilities. This observation means that in cases where this distance is considered to be too great, foreign firms are practically forced to select simpler forms of technological cooperation and technology transfer, such as licensing, while the smaller this distance the more able are foreign firms to use more complex forms of technology transfer.

Following these remarks, all Greek defence firms are willing to engage in cooperation agreements, as they see this as perhaps the only way to participate in significant defence contracts. However, not all firms would make equally good partners. The firms described in the latter part of section 2 of the main study are considered qualified potential partners, as far as their technological capabilities are concerned. Of course, depending on the technological field of interest to the potential foreign partner, there may well be other firms capable of cooperating successfully.

GREECE'S DEEPER INTEGRATION INTO THE EUROPEAN SECURITY ARCHITECTURE

For the foreseeable future, the challenge to Greece will continue to be the reconciliation of its international responsibility with deeply entrenched national security interests and convictions. The contrasting tasks which Greece confronts in the field of security and defence are numerous and burdensome. Circumstances indicate that it will be an uphill struggle to carry a thoroughgoing Defence Review. The following are some suggestions for adapting and improving Greece's reactions to the challenges of a complex world while attaining the objectives of the Greek foreign, security and defence policies.

1. Enhance the capabilities (i.e. equipment and personnel) of the National Centre of Operations in order to increase the amount of necessary unbiased and reliable information on all kinds of elements that constitute the warning factors of a crisis that is communicated at the appropriate time to the Hellenic National Defence General Staff. Improvements in all aspects of the decision cycle must be made so that the time between the anticipation of a security challenge or threat and the definition and execution of a corresponding course of action can be shortened.
2. Given the fact that the pool of potential personnel is still too limited due to the generic problems associated with extracting civilian experts from their domestic duties and providing sufficient incentives for them to leave on foreign missions, examine ways of improving the quality and deployability of civilian personnel qualified to deal with conflict prevention.
3. Appoint in some diplomatic and consular missions experts on peacekeeping, conflict prevention etc in order to be able to discuss and coordinate potential Greek assistance with the countries that are in crisis.
4. Encourage ample and fluid communication with outside actors, such as academic institutions, think tanks, NGOs etc. All of these partners are fundamental to conducting a comprehensive conflict analysis. This approach provides an opportunity for a holistic analysis to inform early warning and conflict prevention efforts.
5. Draw worst-case scenarios, which could evolve if no preventive measures are taken to address the structural causes of conflicts. Thereafter, outline scenarios of what would happen if the structural causes are addressed by means of preventive measures. Once the analysis has been conducted and the elements for a preventive action strategy outlined, it is helpful to reflect on how these measures will be implemented, by whom, by which means and under whose responsibility. In addition, it is important to ensure that the means such as funding, human capacity, political will and judgment exist to implement the strategy.

6. Design a training project that would contribute to improving the specific and fundamental skills needed for effective and coherent early warning analysis and to consolidating a common vision and language within the Hellenic National Defence General Staff with regard to conflict prevention. This training project will need to go beyond Hellenic National Defence General Staff personnel and extend its client base to systematically include participants of government, state and non-state actors. It is important to bring the value added from other players to the analysis and, especially to the development of preventive strategies for selected regions in the world.
7. Incorporate best practices and lessons learned into functional changes in training, planning, exercises and operational capabilities that support improved performance.
8. Develop doctrine and procedures to operate in post-combat and post-conflict situations.
9. Crisis management and stabilization and reconstruction operations cannot be the responsibility of just one national agency. Greece should enhance coordination among different organizations and institutions with varied expertise and comparative advantages and consider establishing an interagency mechanism (Ministry of Foreign Affairs, Ministry of National Defence, Ministry of Public Order, Ministry of Justice etc) dedicated to such operations. In this context, Greece should try to improve mutual interagency understanding that is often hampered by the lack of a NATO-EU Glossary of Contemporary Political and Military Terms. The development of such a Glossary will allow all the various actors working together on the ground, whether from governmental agencies or from the non-governmental community, especially during prolonged and demanding post-conflict reconstruction activities to plan, organize and accomplish the desired multifaceted end-state.
10. A key enabler for supporting both national and institutional (NATO and EU) military capabilities is the ability to rapidly deploy forces over distance in line with NRF and battle group aspirations. The strategic deployment of Rapid Reaction Forces (NRF and battle groups) endows with the capacity to achieve rapid impact. It enables EU and NATO governments to affect a situation from its earliest stage, possibly by containing a deteriorating situation and preventing escalation through coercion or deterrence. If demonstrations of political will fail, air and sea transportation permits governments to deliver, sustain and reinforce their deployed military capability. Speed of reaction also allows an expeditious response to requests for assistance from other nations as it was perfectly demonstrated by the NRF tailored force packages that were deployed in support of relief operations following Hurricane Katrina and the Pakistan earthquake. In addition, air and sealift can permit greater freedom of movement when the ground situation encumbers land Lines of

Communication (LOC). In order to ascertain its strategic lift requirements, Greece first has to establish what is required to do. After conducting a comprehensive Defence Strategic Review, defence planners should determine a gamut of military requirements that might be required to support Greece's national and international commitments. Using the most demanding of these tasks in terms of rapid deployment, Greece should seek to determine if its current force roster could meet this challenge, and if not to assess how its current capabilities could be reconfigured to do so. This then should be used as a basis for fleshing out a "capability package", whose acquisition would be necessary for meeting the challenges of the next ten to fifteen years and for determining how to mitigate any remaining capability shortfalls. This "capability package", which should include long-term "qualitative" and short-term "quantitative" options to enable Greece to improve on the dearth of available strategic lift, could serve as the catalyst for the inclusion in national armaments programmes of the priorities of NATO and the European Union.

11. There is a need to raise the public awareness of EU/NATO in Greece and change the Alliance's/EU's image in the Greek mind which is often "distorted" or "one-dimensional". This would put the country's foreign and security policy helmsmen in a position to effectually explain to the Greek public opinion why EU/NATO -Greece cooperation is mandatory in the field of peace support and peacekeeping operations. Lectures, seminars, conferences, discussions and tailor-made public diplomacy activities sponsored jointly by EU/NATO representatives and Greek organizations prove to be highly effective in involving citizens. These initiatives should be pursued and intensified. Moreover, trends toward reducing funding of public diplomacy programmes need to be reversed and the level of coordination among the many relevant arms of government needs to be stepped-up.
12. The intrastate operations in the developing world that the EU's battle groups and NATO's NRF are intended to undertake cover the full spectrum of conflict from peace support to high intensity combat, demanding a range of military skills and experience beyond the capabilities of conscripts who can only be used for national defence. The ability of Greek armed forces to participate in an effective way in this kind of operations is likely to be hindered by an unwillingness to divert funds allocated for domestic use in order to adequately resource and prepare them for the more exacting types of military operations. Greece, therefore, should consider the possibility, without detracting from the nation's ability to prevail in major theater warfare, of modifying its force structure to create all-volunteer professional rapid reaction forces for peacekeeping operations as standing units of Greek armed forces capable of intervention in conflicts in which Greece has no interest other than humanitarian considerations on behalf of the UN/EU/NATO in a wide variety of environments. National peacekeeping forces personnel will be prepared

- both technically and psychologically for the kind of high intensity combat that might be necessary during an expeditionary operation and trained to handle humanitarian tasks, stabilization functions and combat operations concurrently. These forces would require about a month of post-mobilization training at the Hellenic Multinational Peace Support Operations Training Centre in Kilkis before deploying to their area of operations. They would conduct peacekeeping for six months or possibly a year before returning to Greece. After deployment, they would require another month to reconstitute and allow personnel to take authorized leave. Although one of the main disadvantages of the establishment and deployment of this sort of professional peacekeeping forces is the increase in economic cost, stemming largely from the difference between normal pay and active-duty pay (this cost should be added to the separate contingency budget proposed above instead of being borne by the defence budget) there are also several advantages such as increased availability of active units for major contingencies as well as fewer forfeited training opportunities for armed forces.
13. Military intelligence analysts or officers concerned with long-range force planning ought to develop analytical tools with enough foresight to lay out a representative spectrum of different scenarios of "future worlds" that Greece will face in the next 10-15 years. These scenarios will be generated by mixing geopolitical, economic, demographic, technological and environmental key regional and global trends and will provide a complement to the straight-line projections that posit a mainline scenario typically presenting a one-dimensional view of how the future might unfold. Clearly, the armed forces confront tough decisions on the speed, size and scope of their transformation. This process will have to be informed by scenarios that break through conventional thinking and basic assumptions so that effective hedging strategies that take into account underlying interactions that may have particular policy significance can be devised that will at least partially insulate Greek armed forces against the vagaries of the future during times of great uncertainty.

TRANSNATIONAL THREATS

Greece was shocked and deeply saddened by the terrorist attack against the United States on September 11, 2001, and the huge number of casualties that resulted. There was widespread concern that humankind has entered a very dangerous new phase of terrorist activities. The predominant feeling was that this is not a clash of civilizations, West against Islam, but a war of the civilized world, including many Muslim countries and the great majority of Muslim people, against the fanatics and the zealots of the Osama bin-Laden type.

Since the New York and Washington terrorist attacks, Greek officials have been re-assessing their security priorities. Although relations with Turkey remain the highest priority for Greek security planners, and there is still concern about fluidity and instability in the Balkans, a number of new issues of high concern (the so-called new asymmetric threats of a transnational nature) have been raised. These include the proliferation of weapons of mass destruction; theater and national missile defense; terrorism (both conventional and new forms such as NBC and cyber-terrorism) and the resulting need for increased bilateral and multilateral intelligence and police cooperation; and transnational organized crime, with special emphasis on drug trafficking, religious extremism, and illegal migration.

More specifically on the issue of international terrorism, Greece was definitely not alone among European countries in demonstrating over many years a certain sensitivity regarding the definition of terrorism. This was due to a considerable extent to its sympathy for the PKK, owing as much to Athens' sincere concern about the plight of Kurdish people, as to the zero-sum game mentality that dominated Greek-Turkish relations for many years, according to which the "enemy of my enemy is my friend." While Greece considered the PKK to be a guerrilla movement and not a terrorist organization, it recognized that PKK frequently used "terrorist methods" to achieve its goals. In addition, Greece's Arab ties and pro-Arab stance on the Palestinian conflict (especially in the 1980s) made Athens reluctant to agree to a definition of terrorism that would classify the PLO as a terrorist group.

Since the late 1990s, as Greece has moved considerably closer to the core of European political and economic integration, its views and positions on a number of foreign policy and security issues have converged with those of its EU partners. Greece has moved towards the center on a number of other issues, fully normalizing relations with Israel, as well as markedly improving its relations with Turkey.

Terrorism is one of the issues on which Greek positions have moved closer to those of its EU and NATO partners. The September 11, 2001, terrorist attacks shocked the Greek foreign policy and security elites (although not necessarily to the same extent as the average Greek citizen, whose feelings of sadness over the loss of innocent lives were much stronger than concern about terrorist

attacks against Greece). Recognizing the possibility that Greece could be a potential target either because of its membership in NATO and the EU, or during the Athens 2004 Olympic Games (a very high-publicity event), Greek officials quickly joined forces with their Western counterparts in an effort to respond to the emerging terrorist threat. Greece's contribution had political, military, intelligence, police, and judicial dimensions.

Greece's military contribution to the war against international terrorism currently consists of two frigates (one in the Persian Gulf in the context of Operation Enduring Freedom and one in the Mediterranean for STANAVFORMED), one submarine, one fast missile craft, one general replenishment ship, and one *Orion* P-3 aircraft for Operation Active Endeavour (to inspect and intercept if necessary various "suspect" ships, in the context of the war against international terrorism), and one minesweeper for MCMFORSOUTH. Before the war in Afghanistan, a small group of four to five officers was sent to the U.S. Central Command Headquarters in Tampa, Florida, to coordinate with their American counterparts. The officers remain in Tampa to this date.

GREEK PARTICIPATION IN PEACEKEEPING OPERATIONS

In recent years, Greece has evolved from a firm but rather inactive supporter into an active participant of United Nations peacekeeping efforts and operations. Greek military personnel have participated in peacekeeping operations in Somalia (UNOSOM I), Bosnia-Herzegovina (IFOR & SFOR), Albania (Operation Alba), Kosovo (KFOR, with a sizeable contingent), FYROM (Operation Essential Harvest), and Afghanistan (ISAF) and as observers in other missions in Kuwait, northern Iraq, Western Sahara, and Abkhazia. As already mentioned, Greece is an active participant to the Southeast European Brigade, a multinational peacekeeping unit. After the recent war in Lebanon and the decision for the deployment of a reinforced UNIFIL, Greece expressed its readiness to contribute to the naval leg of the mission with one frigate and one transport ship. Greek officials believe that the future will bring more and more peacekeeping operations by coalitions of the willing.

Greece has also been quite active, at least in comparison to its past performance, in the United Nations context in the past one to two years. Specific examples include its membership on the executive committees of UNICEF, UNESCO and the Coordinating Council for HIV/AIDS, the joint Greek-Turkish proposal on dealing with natural disasters (1999), and, in a different context, the proposal for an Olympic truce (2000). It has also signed all relevant arms control treaties and is participating in all non-proliferation regimes.

Greek participation in peace-support operations (numbers at peak strength)²

PSO	SIZE OF CONTRIBUTION	YEAR
UNOSOM (Somalia)	106	1992-95
IFOR/SFOR (Bosnia-Herzegovina)	100	1996-
ALBA (Albania)	803	1997-99
KFOR (Kosovo)	1,489	1999-
Essential Harvest/Amber Fox (FYROM)	330	2001-
ISAF (Afghanistan)	220	2002-

² It is interesting to note that in 2002, Greece was ranked first in the world in terms of per-capita contribution to peacekeeping operations.

NATIONAL INTELLIGENCE AGENCY

It is difficult for small states, like Greece, to have efficient Intelligence Services. The combination of qualified personnel, sufficient means, government interest, intelligence and political oversight is hard to achieve. Between internal and external Services, the second are more demanding. Their separate existence is justified only if small states face external threats. This is the reason why the majority of small states in Europe have Security Services and leave external intelligence to their Military Intelligence Services.

Greece has adopted (like Spain) the concept of a single Service, more in order to avoid the creation of several Services with the corresponding expenditure and less because a single Service was chosen as the model that best suited the country's needs. A single Service is not without advantages, as that of better coordination of its external and internal branches (i.e. in facing international terrorism). If the model of a single Service is preferred by the Government, it is possible – if the political will exists – to introduce measures which will improve its efficiency. A confidential discussion on the present and the desirable functioning of EYP is a prerequisite for these measures. The discussion must also include the basic principles of Greek foreign policy, to identify foreign policy priorities and threats. Is Greece interested, for example, in recruiting or training Arab speaking intelligence officers to serve in the Arab countries?

The examination of the internal competence of EYP should cover the priorities of the government's anti-crime policy and the division of tasks between EYP and other Services or Departments with similar competences. The government's coordination on matters of national security is more important and is attainable, at least conceptually, through the creation of a flexible political coordinating body. At the official level, the daily coordination between EYP and the Ministry of Foreign Affairs would be facilitated by the creation of Direction of Intelligence in the latter, which would liaise with EYP (perhaps by extending the remit of the Direction of Planning and Analysis). On counterterrorism, operational between and the Antiterrorist Branch must be institutionalized. Meetings on external terrorism should include the Ministry of Foreign Affairs (many Departments dealing with terrorism geographically or functionally) and Military Intelligence.

Whatever measures are adopted, EYP will not deliver timely and accurate intelligence unless it is protected from political pressures. Unfortunately, we have moved from the militarization of KYP before 1974 to its politicization (together with the Armed Forces and the Police) after the restoration of Democracy.

It is understandable that Governments wish to dispose of an Intelligence Service that they can trust, but their intervention must limit itself to the appointments of the Director and the Assistant Operational Director. This is the case with the US and European Intelligence Services. Beyond these nominations, intervention becomes patronage. The worst upheaval was caused in 1989 -90, when the PASOK government appointed 400 officers and employees in EYP, only have

them transferred out of the Service by the ensuing New Democracy Government. Many among them returned to EYP when PASOK came back to power after the elections of 1993!

Patronage is also routinely exercised in the detachment of Police and Armed Forces officers to EYP. The patronage together with the brief length of these detachments lead to the conclusion that they must be brought to an end, as they have harmed EYP more than they have benefited it.

The personnel upheaval after elections if a new political party comes to power, has in the past also caused the destruction or the disappearance of sensitive EYP files. The files are the memory of an Intelligence Service. Without a memory, a Service loses the ability to compare and assess intelligence.

FUTURE TRENDS AND STRATEGIC CHOICES

Recent changes in Greek defense policy include the substantial reduction of military service (from 15-18 months down to twelve months, although any further reduction would be quite difficult) and the parallel increase of the number of professional soldiers on five-year contract, the reduction of defense expenditures to below 4% of GNP, with the objective of further reduction to 3% and the achievement of a higher domestic value in major procurement programmes.

The key issues that need to be dealt with include:

- Realistic threat assessment and force planning in order to maintain Greece's deterrent capability (by increasing the cost for any opponent), without undermining the national economy and the country's future;
- Streamlining of the command structure and greater emphasis on joint training, planning, and operations; economies of scale through integration of intelligence, logistics, and air-defense of the three branches; There has been progress in the last decade in this direction. What appears to be missing is a "strategic plan/vision";
- Gradual, well-planned steps for the creation of a smaller, more efficient mixed force of professionals and conscripts. Additional emphasis on the training and education of officers;
- No more exclusive emphasis on platforms,³ but rather on the procurement of smart weapons and force multipliers. Gradual movement from platform-centric to network-centric armed forces with the final objective of creating a mixed, multi-mission force; full exploitation of the possibilities offered by new technologies (C⁴I, UAVs, simulators, long-range stand-off weapons, electronic warfare, sensors, space capabilities) and doctrines (in the framework of the Revolution in Military Affairs/RMA); more linear organizational and more horizontal command system;
- The decision to acquire another 30 F-16 Block-52 will undoubtedly strengthen the Hellenic Air Force, although it has been argued that the diverted funds could have been invested more efficiently for a 4th generation fighter aircraft. It is imperative that Greece makes a decision as early as possible about the acquisition of 4th generation fighter aircraft. The main contender will be the Eurofighter, manufactured by EADS, and, if the decision is considerably delayed, the U.S.-made F-35. Other contenders with much more limited chances are the French-made Rafale, the Russian-made Sukhoi-27 and the Swedish-made Grippen. The main selection criteria will be the technical characteristics and capabilities of the aircraft, the economic cost and technological benefits, but also geopolitical criteria, such as Greece's

³ In this context, decisions such as the procurement of new MBTs are simply beyond comprehension. Not because of the price per unit or the quality of the MBT selected, which is an excellent tank, well-suited to satisfy Greek armour requirements, but because there are other much more pressing needs and shrinking economic resources and because the most likely conflict scenario would involve other types of systems.

European orientation. Also, in a situation where both sides possess the same types of aircraft, but the opponent enjoys quantitative superiority, choosing an aircraft which the opponent does not possess, and therefore has only a second-hand knowledge of its operational characteristics and capabilities, may be considered as an advantage.

- Greece has been spending a considerable percentage of its GNP for its defence, but not necessarily in the most effective way. A different approach to defense expenditures, procurement, and the organization of the armed forces on the basis of the following principles is needed: more rational structure and organizational procedures, cost-effective use of available funds, trimming down of bureaucracies, and emphasis on the appointment of experienced managers to key positions; Scrutiny of defense procurement programs and rationalization of defense expenditures on the basis of real needs, not the preferences of the three branches of the armed forces;
- There is shortage of personnel, especially in the Land Forces, because of the country's general demographic problem, but also consecutive reductions in the length of conscript service, as a result of government decisions, without any significant change in the force structure, the threat assessment or the completion of the professionalization process of the armed forces. The conscription system should be changed and conscripts should join the Armed Forces at the age of 18, right after graduating from High School (the Cypriot model)
- Non-essential units and military camps/facilities should be closed down to reduce personnel and operating costs;
- Full participation to EU and NATO multinational units (see section on Greece's integration to the European Security Architecture);
- Improved coordination with the MFA on issues of crisis management and national security policy and with other agencies, such as police and Coast Guard, on matters related to asymmetric threats;
- Better coordination with and support for Greek state and private defense companies; dramatically higher R & D expenditures, involving Greek universities and research centers; Active participation in international defence industry projects/consortia, with the objective of attaining political, technological and economic benefits;
- Greater emphasis on intelligence collection and analysis capabilities.

The need for strategic choices

Greece continues to be faced with what it perceives as a serious threat to its security (alternatively, some would describe it as an existential threat to its vital national interests). There is a strong consensus both at the level of the political leadership and the various elites, but also among the general population that Greece needs to maintain a stable military balance with Turkey until the "dust clears", that is until Turkey is firmly anchored to the European Union.

Greece would go at great lengths to avoid a new arms race with Turkey and has periodically submitted various ideas for arms reduction and confidence-building measures. However, as the other side is usually not responsive to such initiatives and as there is a Turkish *casus belli* statement still hanging in the air, and if this is the cost of maintaining a sufficient deterrent capability and peace and stability in the Aegean in this critical transition period for Turkey, then Greece has no choice but to invest in technological superiority and the full exploitation of its human resources, as well as the strengthening of strategic alliances.

In the defence sector, Greece is faced with a number of constraints: it cannot outspend its strategic opponent, at least not without very serious repercussions for its own national economy, which would inevitably lead to a general national decline, it cannot produce weapon systems of greater sophistication than its rival, nor it can buy such systems because both sides have the same suppliers, who in almost every case are not willing to heavily favour one of the sides.

The only viable option for a country like Greece is to make the most efficient use of its defence expenditures by emphasizing the acquisition of force multipliers, and organizing its armed forces in such a way as to transform the country into a very "indigestible target". In such a way, it could affect the cost/benefit analysis of its opponent and convince him that any use of force against Greece would be an extremely costly exercise clearly outweighing any expected benefits.

As it was explained in detail in the section on the Hellenic Navy, Greece has a record of piecemeal acquisition of weapon systems. This is perhaps the least efficient method of defence procurement in terms of political, economic and technological benefits. More emphasis should be put on strategic planning and an assessment of current and future needs. For example, in the case of the 4th generation fighter plane, Greece should decide on the needs of its Air Force for the next 15-20 years (probably in the range of 90+ aircraft, but this is only an informed guess on our side) and then devise an acquisition strategy. Even without placing an order for the total number, Greece would be able to participate to the selected aircraft production programme, and offsets and other military, political and economic benefits could be substantial.

The modernization and strengthening of all three services is vital and necessary (due to the need for joint operations), and their role will be mutually supportive and reinforcing. With a weak navy Greece would lose control of the Aegean and with a weak army it would not be in a position to defend the islands. It could be argued, however, that airpower, although by no means capable of winning a conflict by itself, can both act as a strong deterrent and, if deterrence fails, create a protective umbrella under which the other two services can fight and win the war. Therefore, achieving air superiority should be a top priority.

When it comes to Greek defence industry, a number of fundamental problems need to be resolved and some major decisions need to be taken as soon as possible on issues such as the role of defence industry in covering part of the

country's defence needs and in contributing to the development of the high technology sector of the economy (and here another very pertinent question is who supervises and coordinates R & D in Greece and to what degree various actors cooperate in order to produce synergies instead of acting independently and without a minimum of coordination and cooperation), the need for a long-term strategy to achieve those goals and the creation of the necessary strategic planning and decision-making mechanism.

In view of Greece's first steps in space (with the launch of a telecommunications satellite [Hellas Sat] and proclaimed increasing interest and future needs (including participation in the Helios programme), another pressing question is whether Greece envisages for itself a role –again, probably a minor one, but a role nevertheless- in the international aerospace industry.

There is an obvious need for strategic choices in order to ensure survivability of Greece's defence industry for economic and national security reasons. A viable and developed defence industry might also result in technological spin-offs for the civilian sector. Such knowledge and technology diffusion could be potentially important for a country with very limited funding for R & D, which has, however, highly qualified scientific potential, both in-country, but also abroad. Improved prospects in the R & D sector might attract some of them back to Greece, boosting scientific and technological research.

If one accepts that the only viable option for the survival of the defence industry of a medium country, with a small domestic market, and rather limited technological edge, is to participate in multinational programmes, this makes imperative to make timely decisions in terms of international partnerships.

The two main options are, of course, joining in American- or European-led consortia. Although one could decide on a case-by-case basis, the American policy is to not share critical technologies with their clients and partners (for obvious and well-understood reasons that have to do with their national security and the maintenance of their technological edge). European countries have adopted a different approach and are willing to provide their partners, especially other members of the EU, increased access to high technology, software codes, etc. Although in most cases, a country like Greece would join multinational programmes as a junior partner, it is possible, on the basis of its participation to a specific programme, to have a more substantial role, especially if it joins at the early stages. This might allow Greece to better support its weapon systems (increased availability), to participate in the weapon system's future upgrades and follow-on support programmes and reduce its dependency (which is a critical factor, especially in periods of tension).

In conclusion, for the foreseeable future, the challenge to Greece will continue to be the reconciliation of its international responsibility with deeply entrenched national security interests and convictions.

To achieve those objectives, Greece should increase military research and development (R&D) spending and start gradually shifting to a high technology force. Athens needs to devise a strategy for enticing scientific talent of Greek origin residing and working abroad to migrate back to its home country and also seize the opportunity provided by the rapid diffusion of scientific knowledge in the age of globalization to generate teams of scientists committed to developing new technologies. These teams will consist of both public and private-sector laboratories, area universities and research facilities and non-profit organizations and will apply modern science and engineering – particularly in fields such as physics, chemistry, information technology, biotechnology, nanotechnology and robotics – to develop weapons for conventional use but also innovative capabilities – including key military enablers (intelligence, surveillance, target acquisition and reconnaissance, suppression of enemy air defences, precision guided munitions, air-to-air refueling, electronic warfare, secure communications networks, intelligence assets etc) – designed to upgrade Greece's ability to project both "soft" and "hard" power. Technology can act as a force multiplier, and as such, can provide Greece with the ability to reconfigure forces and equipment rapidly in order to adapt to changing circumstances.

As Greece's strategic choice is to become as deeply integrated into the European security architecture as possible, it should structure part of its armed forces in such a way as to increase interoperability and participation to EU and NATO multinational forces. The intrastate operations in the developing world that the EU's battle groups and NATO's NRF are intended to undertake cover the full spectrum of conflict from peace support to high intensity combat, demanding a range of military skills and experience beyond the capabilities of conscripts who can only be used for national defence. The ability of Greek armed forces to participate in an effective way in this kind of operations is likely to be hindered by an unwillingness to divert funds allocated for domestic use in order to adequately resource and prepare them for the more exacting types of military operations. Greece, therefore, should consider the possibility, without detracting from the nation's ability to prevail in major theatre warfare, of modifying its force structure to create all-volunteer professional rapid reaction forces for peacekeeping operations as standing units of Greek armed forces capable of intervention in conflicts in which Greece has no interest other than humanitarian considerations on behalf of the UN/EU/NATO in a wide variety of environments. National peacekeeping forces personnel will be prepared both technically and psychologically for the kind of high intensity combat that might be necessary during an expeditionary operation and trained to handle humanitarian tasks, stabilization functions and combat operations concurrently.

As senior Greek government officials acknowledge, there is considerable concern about the nexus between transnational organized crime, in the Balkans, the Middle East and adjacent regions –especially trafficking of narcotic substances and women- and international terrorism. Because of its geographic location, Greece is a transit point for such illegal activities, in the context of organized crime/terrorist networks.

Like most countries in the world today, Greece still needs to improve its domestic response, particularly in terms of training, equipment, and information-sharing on issues such as money-laundering, cyber-terrorism and cyber-crime, and prevention and consequence management of NBC terrorist attacks. The considerable resources - trained personnel, organisation, equipment, planning and experience - that were used for the security of the 2004 Athens Olympic Games should be fully exploited now that the Games are over. Indeed, the systems developed for the Games and the expertise earned will constitute an important post-Olympic legacy, leaving Greece with a high quality infrastructure in terms of equipment and trained personnel.

The Greek security sector will be faced with a number of important challenges: developing and maintaining a 'critical mass' of highly trained and motivated officers; increasing professionalism throughout its ranks; resolving problems of inter-agency cooperation and the slow pace of security sector reform, due to the rather low level of awareness about the new security threats among the general public, and the traditional weaknesses of the Greek public administration system; and, last but not least, developing a security culture. The latter should be achieved by increasing the number of civilian experts, as suggested below, but also through improving the professional education system and, importantly, making the mental leap in order to adapt to a new security environment where Greece is a full member of the developed and 'privileged' West and, therefore, a possible target of non-state actors.

Finally, in view of the difficulties of coordination between ministries and agencies, the lack of a coordinating mechanism on national security issues (especially if a wider definition of the term 'national security' is adopted) becomes even more pronounced. The creation of a National Security Council would be strongly recommended.