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NOTE

From :	General Secretariat
To :	COREPER / Council
Subject :	European Space Policy: "ESDP and Space"

1. Following a detailed study of the military needs issued by the Hellenic presidency on 15 March 2003, the importance of space applications and functions was recognised by the Council on 19 May 2003 as well as in the Presidency report on ESDP, endorsed by the European Council at Thessaloniki on 19-20 June 2003.

2. On 25th June 2003, the PSC contributed to the consultation process of the Green Paper on European Space Policy from the Commission and the European Space Agency, (doc 11209/03 RESTREINT), recognising the importance of space applications and functions to support and enhance the EU capabilities to carry out crisis management operations.

3. On 27 November 03, the Commission made a presentation on the White Paper on "Space: a new European frontier for an expanding Union - An Action Plan for Implementing the European Space Policy" (circulated as doc 14886/03 17 Nov 03) to the PMG, which then discussed the matter.

4. With the aim of furthering the general discussions on the importance of space applications, the Italian Presidency organised a seminar entitled "Space and Security Policy in Europe" in Rome (2 December 2003). A report, drafted together by six European research institutes, was presented to this seminar, and further published by the EU ISS in December 2003 (ISS occasional papers n° 48).

5. On 09 December 2003, the PSC reiterated its position that further and regular interpillar reflection is needed to ensure that the security and defence aspects of CFSP and ESDP are taken into account during the deliberations on an EU Space Policy and its associated programmes. This interpillar reflection should take into account the work being done in the context of other EU initiatives including the ECAP project groups (such as Space Assets) identified in the Capabilities Conference Declaration, which was endorsed at the GAERC 19 May 2003 and other possible future projects linked to ESDP. In addition, the PSC noted that chapter 3.4 of the Commission White Paper on Space makes recommendations. On this basis, initial work began in Council bodies on possible ESDP aspects of the future EC Space Programme. This work would benefit from clear guidelines.

6. At the same time, a Group of Personalities (GoP)[1] developed the cornerstones of an EU Security Research Programme and the contribution it could make to address the new security challenges. It recognised the crucial character of Space based assets for a secure Europe. A panel of experts gathered by the European Commission is now working on the possible defence and security aspects of the future EC space programme.

7. On this background, it was felt useful that the EU Council developed a Space Policy, as a guideline for the co-ordination of all actions in the field of the use of Space assets for ESDP purposes. The PSC agreed on 16 November on the contents of this document, that is now submitted to COREPER with a view to its approval by the Council.

[1] Co-chaired by European Commissioners Busquin and Liikanen, composed of Security Industry Chairmen and Chief Executives, serving Members of the European Parliament, Heads of major Research Institutes, high-level European Defence Ministry officials, two high-level political figures (Artisaari / Bildt), Commissioner Patten and the High Representative for the CFSP.

"ESDP and Space"

I. INTRODUCTION

1. The European Security Strategy endorsed by the European Council in Brussels on 12 December 2003 has clearly stated that the European Union needed to be more active, more coherent and more capable. It has defined the main threats that needed to be addressed, among them:
   - the terrorist threat, and its linkages with international organised crime;
   - the proliferation of Weapons of Mass Destruction (WMDs), addressed inter alia through verification of the provisions of the Treaties;
   - the regional conflicts and their consequences.

   It also recognised that the first line of defence and security will often be abroad, though interconnected with European home security. This is true for all major threats, which causes, if not the actors, are most often rooted in remote countries.

2. Being an integral part of the Common Foreign Security Policy (CFSP), the European Security and Defence Policy (ESDP) has, during the last years, developed a number of tools to address these threats. It draws on all those instruments, civilian as well as military, made available to the EU by its Member States to prevent, manage and resolve crises. The necessity for a comprehensive civilian/military approach to address crisis in an effective and lasting way has been made evident by experience, including lessons learnt from United Nations and NATO operations. The considerable variety of the means and resources available from the different institutions composing the EU has led to a more and more coherent approach.

3. However, the continuous analysis of the European capabilities in the framework of the Headline Goal (HLG) process has identified a number of strategic and operational needs that are not yet fulfilled. EUMC has been requested to update the military requirements for Space assets. Following the findings of the initial phase of the European Capabilities Action Plan (ECAP), an ECAP Project Group on Space assets has been created to propose practical solutions for making space assets available for the planning and conduct of EU-led crisis management operations (CMOs), thus contributing to filling some of the main identified capability gaps. Filling these gaps, when necessary by making use of space assets as necessary, is one of the objectives in the

Headline Goal 2010[2], which refers to the development of a space policy by 2006. The work on operational requirements carried out by the Space and Security panel (SPASEC) and its working groups concerning the security aspects of space should also be taken into account.

II. THE ADDED VALUE OF SPACE FOR CFSP/ESDP

4. **Reliable information is the basis for early warning**, which is itself the condition for early action and conflict prevention. In recent years, EU Member states were several times confronted with the difficult task of making decisions related to foreign crises. Unanimity is the rule for making decisions on ESDP matters. Ensured access to reliable information, available to all, minimises uncertainty and increases the chances for timely political decisions.

5. It is also essential to prevent proliferation and to ensure world-wide verification of treaties: our own experience in Europe shows that security may be reinforced by confidence building measures and armaments control systems. Information on water resources, large scale pollution, proliferation activities, movements of population including illegal immigration, all kinds of trafficking and many other elements which constitute the warning factors of major threats, can be essential for conflict prevention and fight against all less visible threats to European security such as terrorism and organised crime.

6. But this information is not always easy to collect with due respect to international law and foreign states' sovereignty over their territory and airspace. Space-based sensors have the advantage of unrestricted access over potential or actual areas of operation and areas that are otherwise difficult to gain access to for political or military reasons. They can provide evidence of illicit activities, therefore contributing to the fight against those who would wish to undertake terrorist actions from foreign territory. Interpretation of satellite imagery by specialists of the EU Satellite Centre (SATCEN) and the Joint Research Centre (JRC/Ispra) can thus provide a valuable source of intelligence for assessments elaborated by the Situation Centre (SITCEN) to support the EU decision making process and planning activities.

[2] Document 6309/6/04 rev 6 dated 12 May 2004, approved by Council on 17 May 2004 and noted by the European Council on 14 June 2004 as part of the presidency ESDP report.

7. The EU also needs to achieve an adequate level of **operational capabilities and readiness**, to ensure its own security as well as for contributing to the world security, in accordance with the objectives set in the European Security Strategy, in particular in the conduct of Crisis Management Operations (CMOs). Space assets can contribute to many capabilities needed for any civilian and military operation, such as communications, intelligence, positioning and weather forecast. Intelligence gathering at the tactical level can often be met by military means other than space assets, such as drones or reconnaissance aircraft, where that is politically and operationally feasible.

- **Space imagery** can provide very valuable support to the planning and conduct of military, but also civilian aspects of Crisis Management Operations (CMO) precisely assessing the situation on the ground.

- **Secure and reliable communications** are essential for exercising political control and strategic direction of any operation. They are also vital at the operational and tactical level. On external theatres, these capabilities may often depend upon space-based assets, especially where local infrastructure is deficient.

- **Space based positioning and time distribution** systems have become indispensable to all military forces and civilian units since the fielding of the first generation of satellite radio navigation systems. These are today vital to the conduct of all operations, from the most sophisticated command and control systems down to the individual element. For civilian as well as for military operations, precise and secure knowledge of the position of own troops, that is essential for the conduct of the operation and the safety of our personnel, is heavily dependant upon satellite radio navigation systems (GPS, Galiléo, Glonass) and reliable communications.

8. Space assets are major enablers for many operational capabilities. But too much reliance on space based assets, including in the economy sector, could induce new vulnerabilities in case these systems are defeated. This should be taken into account when considering European security and appropriate measures envisaged to identify, prevent, or at least to limit, these risks. Such measures could include space surveillance, space-based detection, monitoring and identification of illicit activities. This could concur to the fight against proliferation of weapons of mass destruction (WMDs).

9. In providing valuable elements to the early decision-making process, to the planning and to the execution of military and civilian tasks, space assets could thus further contribute to making the EU more capable in the field of crisis management. They would at the same time contribute to fighting other recognised threats to the security of the Union.

III. IMPROVING EU CAPABILITIES

10. Providing the EU with access to the space assets able to contribute to early detection of crisis, crisis prevention and crisis management at the political, strategic and operational levels is therefore a way to enhance its decision making process and operational capabilities.

11. Some EU Member States have included space assets in their military priorities. Recently, significant military or multiple-use programmes were undertaken and preserved by several States. Different levels of co-operation exist between these Member States, ranging from full participation to common programmes, to agreements for mutual access to national capabilities.

12. Military capability will continue to remain within the remit of Member States. This should not prevent Member States to look for achieving the best possible level of capability through extensive co-operation, sharing and pooling of assets and capabilities wherever possible, within the limits acceptable with regard to their national sovereignty and vital interests. This is one of the aspects studied by the ECAP project Group on Space assets. Initiatives have also been taken by the EU Secretary-General / High Representative for CFSP to initiate practical co-operation measures such as the arrangement on access by SATCEN to Hélios 1 products, and other exploratory talks with Member States owning or developing military space systems for EU access to their products. Meanwhile the Military Committee has undertaken, on the basis of ECAP previous work and of the Headline Goal 2010, an initial analysis of military needs for space assets. On the civilian security side, significant steps have been taken by the European Communities to include security objectives in civilian space programmes, as illustrated by the Global Monitoring for Environment and Security (GMES). It must be noted that, although not driven by military needs, almost all space programmes have a multiple-use capacity that could provide solutions to some military needs.

13. There are several ways for the EU to have when required access to space assets for ESDP purposes, that could be envisaged in the form of a step-by-step process, driven by actual capability requirements as a first step, and considering existing military assets in EU Member States and multiple-use capacities offered by existing civilian programmes. In parallel, ways other than recourse to space systems and use of data provided by these systems to fulfil requirements should also be considered, with a view to cost-effectiveness, performances, and actual availability.

14. As a second step, the EU should be able to make use of already existing assets, belonging to its Member States, but also to commercial companies provided they are able to guarantee integrity and availability of the service offered including in times of crisis; in this regard, it is essential to draw lessons from experience. There are already agreements among EU Member States to share or to exchange capacities. The EU having no system of its own, the Member States political will to share information with the EU in support of a possible collective action is therefore essential. This access might be either based on permanent access to data or on a case-by-case opt-in basis, depending upon the exact operational requirement. Costs eventually incurred would obviously be very different according to the nature of service provided (imagery or communications) and the degree of priority requested by the EU. Financial implications and appropriate financing modalities will have to be discussed, minimising costs as far as possible, and agreed upon before concrete measures are taken.

15. As a third step, the EU should ensure that it would be able to take advantage of multiple use capabilities inherent to existing civilian programmes planned in the framework of the Community programme. Many requirements issued by the first, second or third pillar, are met by identical technical solutions. Monitoring borders for example would basically draw upon the same instruments wherever in the world, and advantage could thus be taken of portions of the orbit, useless for Communities civilian objectives, to monitor borders for ESDP purposes in crisis areas. Satellite imagery can be used either to monitor a crisis or to assess a humanitarian urgency or an ecological disaster. A communication satellite designed to bridge the "digital divide" could easily[3] support operational traffic, encrypted off-line, without any modification. Appropriate provisions as required, such as defined by the ECAP project Group on Space,

[3] with a capacity of 600 Mb/s, where military requirements for operational data transmission are less than 4 Mb/s

should be made at an early stage of the programmes to ensure that ESDP requirements are known and that the programme specifications will take them into account to the extent compatible with its own priorities. Multiple-use technologies should be used to the maximum extent in order to avoid additional costs and unnecessary duplications. The process begun in May 2004 with the panel of experts on security called by the European Commission as a follow-up to the White paper on Space has been a first move towards this aim. It should be developed further in close co-operation between all potential users within the EU.

16. Possible agreements with third parties providing access to their own space-based assets should also be explored to the extent possible. This should be complemented by appropriate recourse to service providers (such as Meteosat) with a view to avoid duplication wherever security of access is reasonably guaranteed.

IV. A GLOBAL EU SPACE POLICY

17. Unlike most other space actors, Europe has developed its space capacities as an almost purely civilian endeavour. As a consequence, defence space-based assets launched by European States are often just an extra load "piggy-backing" on civilian platforms. Any comprehensive EU space policy should not attempt to break away from this heritage, but build on it. This is all the more appropriate when considering the dramatic expansion of multiple-use technologies. Therefore, the EU should not attempt at designing a stand-alone "Defence" space policy, but rather **a global space policy**, drawing as much as possible on existing and potential synergies. But while civilian space in the EU is already at the leading edge of the world's technology, defence applications have been developed and deployed by individual Member States and the EU as such has no automatic access to these systems.

18. EU approach to crisis management emphasises the existing and necessary synergy between civilian and military actors, and between ESDP and Community instruments. With due respect to the respective institutional competencies, a global space policy should emphasise the same synergy between civilian and military assets contributing to a coherent EU action, starting from the decision-making process down to the requested end-state, through the planning, the conduct and the reconstruction phases.

19. Galiléo, EGNOS[4], GMES and SATCOM[5], and their potential capacities, is a cornerstone of the European Community Space Programme. They also have the potential to contribute to civilian and/or military crisis management (in the case of GALILEO, such a contribution could be subject to the agreement of the Council). When adding to it existing and planned national military and mixed satellites (Hélios 1 and 2, SAR-LUPE, Cosmos/Skymed, Terrasar-X, Xstar-Eur, Pleïades, Cerise, Syracuse, Skynet, Sicral…), the civilian systems already used in Member States for security and defence purposes (such as Meteosat, SPOT, or maritime information satellites), and the independent launching capability provided by the Ariane family and the Kourou launching pad, it looks like many of the required tools are already in place. European actors would mainly need to consider bringing together civilian and military programmes, ensure interoperability and organise collective access to the subsequent capabilities in a way which allows Member States to profit also nationally from the multiplier effect. It should be noted in this regard that the principle of arrangements allowing the EU to benefit from several nationally developed military programmes has been agreed by Ministers of Defence of interested Member States[6], and that work is already ongoing on their contents.

20. Based on agreed operational needs, the following actions could be undertaken:

- In the short term, arrangements allowing the EU to have access to some Member states' owned military assets or data originated by them, as well as to civilian assets with dual-use capabilities, would constitute a first step towards providing the EU with space capacities to support ESDP.
- In the medium term, Member States should aim at complementing this pool of capacities through voluntary contributions or other proposals in terms of partnership, exchange of capacities or sharing of data.
- In the longer term, the requirements for space capabilities needed for security and defence as well as for other purposes should be developed and agreed upon, and drive future programmes that may be the subject of multilateral co-operative projects supported or possibly managed by the EDA on behalf of Member States.

[4] Positioning programme complementing the American GPS system in the European region
[5] digital data transmission satellites designed "to bridge the digital divide"
[6] Letters by SG/HR to MODs of BE, GE, FR, IT and SP on 10 February 2004 and subsequent answers.

21. But for the EU to take full benefit of these successive steps, **permanent** access to a minimum number of assets such as communications terminal units should be considered. EU Member States own rather limited numbers. In case of an EU operation with recourse to NATO common assets and capabilities, access to NATO's owned equipment in the framework of Berlin Plus provides a possibility, but these are scarce assets and are not interoperable with all satellites. An EU data processing capability should also be envisaged, possibly based upon extension of existing EU SATCEN and JRC/Ispra capabilities[7], to make use of the access to space imagery, be it from commercial or military origin. Close co-operation between SATCEN and Community services, in particular JRC/Ispra, should be reinforced to avoid duplication.

22. The main flaw when trying to bring together several space programmes is actually interoperability. In the absence of any agreed standard, every space system has its own technical specifications. It is therefore almost impossible today to have a common ground segment, able to receive and process data provided by the different available sources. A**n agreed common standard**[8] for future programmes, including civilian and defence-oriented ones, might allow over the long term for a dramatic limitation of the numbers of ground assets needed to receive and process data from all space-based sources. The need for interoperability and common technical standards, including between civilian and military assets, is underlined in the document on Headline Goal 2010[9]. Promoting the definition and the use of common standards for future Member States' programmes as well as for co-operative programmes between Member States should therefore be a priority task for relevant bodies including the European Defence Agency. A practical step towards rationalisation was the agreement by six EU Member States on a Common Operational Requirement[10]. Extension of this agreement to other EU Member States might improve rationalisation of security and defence capabilities.

[7] capability to integrate information from several sensors could be considered to increase effectiveness
[8] see project of Treaty establishing a Constitution for Europe Art III-248 §2
[9] paragraphs 8 and 9
[10] "Besoin Opérationnel Commun" (BOC) signed by six European Staffs (B, D,E, F,GR, I)

V. CONCLUSION AND WAY AHEAD

23. The current EU Space Strategy[11] developed jointly by the European Commission (EC) and the European Space Agency (ESA) focuses on transport, environment and research. An EU space programme is already under development, namely driven by users' requirements such as satellite positioning, communications and Earth observation. But this Strategy had not taken into account the developments regarding the ESDP, which is now an integral part of the EU policy. The EU should take into account all identified and agreed upon ESDP civilian and military requirements.

24. To be more active, more coherent and more capable and to become, as proposed by the EU Security Strategy, a world-wide global actor ready to share responsibility for international security, Europe should have access to the best affordable capabilities for autonomous political assessment, sound decision-making, and effective conduct of actions. Space assets could provide a significant contribution to this endeavour and should be considered alongside other means. Identified and agreed upon ESDP requirements should therefore be reflected in the global EU Space Policy and its corresponding European Space Programme.

25. Developing such a global approach to Space Policy certainly requires a strong political will by Member States, based on an improved sense of solidarity and acknowledged sharing of vital interests, within the framework of existing EU principles on the respective roles of the EU and its Member States and institutional competencies. Sharing and pooling resources of the European Community and its Member States, drawing on multiple use technology and common standards, would certainly allow over time for significant cost-effective collective achievements.

26. In order to achieve these objectives, a comprehensive roadmap including the following steps should be developed:
    - ESDP requirements should be specified on the basis of HLG 2010 and the initial study by the Military Committee.

[11] Council Resolution of 16 November 2000 on a European space strategy. Official Journal C 371 , 23/12/2000 P. 0002 – 0003.

- Arrangements for EU access to existing and planned military systems or data originated from such systems belonging to Member states should be concluded;
- ESDP requirements should be provided to the Commission and Member States to allow for identification of possible multiple-use capabilities inherent to civilian systems under development;
- In the context of the European Space Programme, a permanent inter-pillar dialogue should be established to ensure global coherence of all EU needs and requirements, with a view to optimise all programmes since the initial design phase and avoid unnecessary duplications and spending while respecting the institutional framework, competencies and prerogatives;
- A global EU Space policy should be developed and regularly updated, including the agreed ESDP requirements;
- Appropriate contracts of the SATCEN with commercial companies should be updated;
- In the longer term, harmonisation of military requirements for instance through the European Defence Agency should allow for more dedicated co-operation in the conception, design and development of future programmes.
- Once requirements have been defined, financial issues will have to be resolved before next steps are concluded.
- Possible agreements with third parties providing access to their own space-based assets should also be explored to the extent possible.