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SPACE PROCUREMENT: A EUROPEAN TOOLBOX

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Procurement in the space sector faces similar challenges worldwide. A relatively small, high technology sector meets imperfect market conditions coupled with strategic policy considerations. Under these conditions, and due to the high dependence on the public sector, public procurement has an overwhelming influence on the space market. In Europe, procurement in the space sector is currently undergoing an unprecedented evolutionary process. The European Space Agency is in the midst of a major reform of its procurement regulation and contract conditions. The Financial Regulation of the European Union has also come under review. This paper outlines the policy objectives, market conditions and legal frameworks which form the context in which space procurement takes place in Europe. Analogies will be drawn from other industrial sectors. Special focus is laid on extra-procurement instruments in order to explore ways outside the procurement regime to achieve desired (industrial/cohesional) policy objectives. Procurement, being a means to an end, and not an end in itself, is viewed as a tool and not as a policy. Due to overlapping and at times not-well defined policy objectives, distinct space market segments, and a differing (EU / ESA) legal framework, a toolbox approach is adopted enabling flexible tailor-made solutions. Various tools are evaluated in the light of the policy, market and legal contexts. The paper finally presents a toolbox for space procurement in Europe, developed under an FP7 grant (research project SP4ESP) of the EU.

I. INTRODUCTION

This paper offers a concise summary of a joint research project conducted by the Universities of Cologne, Leuven and Prague in 2009-2010. Given the distinct procurement philosophies of the European Space Agency ('ESA') and the European Union ('EU'), the study "A Coherent European Procurement Law and Policy for the Space Sector: Towards a Third Way" ('the study') puts forward proposals that could facilitate the rapprochement of the two European organisations. The study received funding from the European Union's Seventh Framework Programme (Cooperation/Space).¹ Its publication is slated for the 4th quarter 2010.²

II. CONTEXT OF EUROPEAN SPACE PROCUREMENT

Policy objectives, market conditions and the legal framework form the context in which any space procurement inevitably operates. The development of a European space procurement system is policy-driven and must account for the heterogeneity of the space sector. Depending on the procurement object in question, market conditions may vary considerably. Although the fundamental goal must be to lend support

to the priorities under the European Space Policy and implement a common vision for Europe in Space, the study discerns five particular objectives from official policy documents.

II.1 European Space Policy

For the time being, the European Space Policy is far from being well-defined. The study only takes into account those objectives that can be considered common objectives of both ESA and EU.³

Attractiveness for Member States to Invest in Space

The decision whether or not to set up a public space programme is conditional on the availability of sufficient funding. The willingness of public authorities to provide funding depends on the expected future return of a programme, which can take a number of forms. Besides purely financial benefits, space programmes often foster scientific advances or spill over into other industries and markets. Furthermore, space programmes can also serve as an element of foreign and domestic policy, contributing to international prestige and cooperation as well as to national and European identity.

When a programme is set up in international cooperation, each participating State carries out its own evaluation on the expected return on its investment. The institutional setup of the programme must therefore be such that each participating State is guaranteed at least some form of return on its investment. Procurement, evidently, is a tool that can be used to great effect in reaching this goal, and has been instrumental in fulfilling this role at ESA. Notably, the existence of optional programmes, coupled with the *juste retour* and preference clause mechanisms, have proven to be highly effective in aligning Member States' interests towards carrying out cooperative space programmes through ESA.

The broader array of policies of the EU permits a less restrictive conception of this expected return for Member States. In view of the EU's supranational character, its space competence is to be seen as federated with other competences and so is therefore the condition of aligning Member States' interest. EU cooperation in space may notably be interlinked with EU policies that emphasise European added value or that are aimed at nurturing a European identity, thereby ensuring a pro-inclusion policy towards all Member States.

The EU operates on a system of own resources ensuring its financial autonomy.⁴ EU funds cannot, strictly speaking, be considered Member State contributions like they are in ESA. The general budget only allows to a limited extent assigned revenue in the form of contributions by Member States earmarked for a specific purpose.⁵ The Council and the Parliament enjoy budgetary powers for establishing the multiannual financial frameworks, annual budgets and programme decisions. Financial considerations of Member States inevitably have an impact in the EU context.

The availability of funding is of fundamental importance to the existence of any cooperative space programmes in Europe and has been expressly recognized as such by successive Space Council resolutions.⁶

Efficient Use of Resources

One of the most evident objectives of a procurement system is that the available resources are to be used in an efficient way. Both organisations have endorsed this objective separately in their respective legal documents⁷ as well as jointly, in Space Council Resolutions⁸.

This objective is of particularly high importance to the EU. The completion of the internal market manifests a cornerstone of the Union that rests upon the fundamental principles of equal treatment, non-discrimination and transparency. Article 120 TFEU demands that Member States and the Union act in accordance with "the principle of an open market

economy with free competition, favouring an efficient allocation of resources".

Global Competitiveness of the European Space Industry / Economy

A classic objective that has been present in ESA's industrial policy objectives as stated in its Convention⁹ and put into practice by its procurement system, is the fostering of the competitiveness of the European Space Industry on a worldwide market. Indeed, the (commercial) market on which European space companies operate, stretches far beyond the frontiers of Europe. In order to enable European companies to compete successfully with international players, a level playing field must be created to the largest possible extent. Forces that have to be contended with at the international level in order to achieve this equality of opportunities include domestic preference clauses and cross-subsidisation from institutional markets (both civil and defence). ESA procurement has so far attempted to deal with this by instating an unequivocal domestic preference clause,¹⁰ something the EU has not done. Here too, the EU framework offers possibilities for this objective to be attained through use of a combination of policy measures, notably including trade policy and constructive use of the EU's external relations to act as a market-opener for European technologies.¹¹ Whatever the means chosen, promoting the competitiveness of European industry can safely be considered an industrial priority for the EU, as it is explicitly mentioned in Article 189 TFEU, the core provision on EU space policy, and recognised in several Space Council Resolutions.

European Autonomy / Non-Dependence

Relating to the strategic importance of space, not only to the European economy, but also in the field of security, the question of autonomy and non-dependence arises. Both the EU and ESA have adopted independence in selected critical technologies as an objective via Space Council Resolutions.¹² According to the EU, this objective requires a careful balancing with the apparently contradictory objective of "cooperation and the sharing of resources among international partners".¹³ Therefore, the Third Way has to contain tools and provisions that enable European policy-makers to maintain this balance.

Balanced Involvement of Capacities in Europe

Both ESA and the EU have repeatedly emphasized that the carrying out of space programmes should involve a balanced mix of capacities from the participating States. The EU-ESA Space Council has repeatedly recognized this objective, although its formulations differ slightly.¹⁴

ESA states this requirement in its Convention as an objective for its industrial policy¹⁵, and modulates it in such a way that the respective financial contributions of Member States are taken into account, thus laying the base for its *juste retour* principle.

As there is only limited experience with space programmes managed by the EU, the precise interpretation of the EU regarding the implementation of this objective remains unclear. The EU has some reservations towards an *ex ante* guaranteed geographical distribution.¹⁶ In the context of the Galileo FOC procurement the EU promotes the balanced participation of industry at all levels, including in particular SMEs, across Member States, and seeks to avoid possible abuse of dominance and long-term reliance on single suppliers.¹⁷ While a balanced industrial structure arguably must ensure a sufficient level of competition, it is unclear from the EU's reading of this objective whether "participation [...] across Member States" entails minimum work shares for industry from all Member States or whether it only entails fair market access and bidding opportunities. Nevertheless, the persistence with which this objective is mentioned, confirms that ESA, the EU and the Member States share a firm belief in the importance of this objective. The balanced involvement of capacities "in Europe" further relates to the question of full association of EU and ESA Member States in joint programmes. In any case, the objective of a balanced involvement of European capacities has its repercussions on the design of the Third Way.

II.II European Space Market and Stakeholder Consultation

The objective of the market analysis is to define clearly what is understood by the specificities of the space market. Those must be taken into account in proposing a procurement approach that is tailored to the specific needs of the space sector.

The focus on the relative positions of a number of key European space-faring nations, showed the wide range of involvement and the differences in structures.

A number of specificities of the space market differentiate (parts of) the space market from so-called normal markets. Each of these characteristics, which include the small size of the market, the degree of dependence on public funding and the high-tech nature with its corresponding lengthy development cycles and elevated financial and technological risks, has consequences for the appropriateness of procurement measures.

Finally, the space industry is divided into a number of sectors. It consists of economic operators who design, develop and construct (parts of) spacecraft, of economic operators who provide the ground segment and of providers of launch services. The industry is

complemented by economic operators further downstream who are active in operating space assets and economic operators who provide space-enabled services.

An extensive stakeholder consultation process with institutional and industrial actors alike has been undertaken to bolster the development of a third way in space procurement. Aiming at a broad participation and being confronted with a general reluctance of stakeholders to participate due to the sensitivity of the issue, the resulting responses cannot be considered representative. The insights must serve rather as a source of inspiration than an instrument from which firm conclusions can be drawn.

Notable results of the consultation process include the need for a clear delineation of competences between EU and ESA, a strong defence of the geographic return mechanism as used by ESA, widespread concern about the use of grant evaluation criteria for procurement and the fact that procurement is to be exclusively viewed as a tool, not as a policy in itself.

II.III European Legal Framework

ESA Procurement Rules

Just as ESA's origins lay with its predecessors ESRO and ELDO, so do those of its procurement rules. The roots of the *juste retour* mechanism date back to the 1960s, when a guaranteed return coefficient of at least 70% for each participating State was introduced.

Political considerations have always had an overwhelming impact on ESA, and the latter's procurement system has always been a cornerstone of its industrial policy. As a result, two categories of considerations impact on ESA's procurement system. Besides considerations inherent in any procurement system that deals with the space market, ESA's procurement system is specifically designed to balance ESA's intergovernmental setup. As procurement is much more of a key activity for ESA than it is for most other international organisations, this eventually led to the implementation of the *juste retour* mechanism.

ESA's procurement rules are principally laid out in the ESA Convention and its Annex V on industrial policy. The "Procurement Regulations"¹⁸ are the single document that tangibly governs most of ESA's procurement activities. It contains the general principles of ESA procurement, framed as rules of interpretation. The General Clauses and Conditions for ESA Contracts (GCC)¹⁹ and the "Best Practices for the Selection of Subcontractors by Prime Contractors in the frame of ESA's Major Procurements"²⁰ complete the system of ESA procurement.

ESA procurement rules provide both for open and restricted competitive tendering as well as non-competitive tendering. They aim to award the contract

"to the tenderer(s) offering the best technical quality for an acceptable price", and therefore not merely to the lowest bid that complies with the technical requirements.

Currently the Agency operates with a global lower return limit of 0,94 whereby the period between formal reviews has increased from 3 to 5 years. *Juste retour* has been instrumental in allowing collaborative space efforts in Europe through ESA, but with it comes a considerable cost in the form of reduced competition, increased prices and artificial industry structures.

Two key points of the current ESA procurement reform are an optimisation of the existing system and a rapprochement to internationally accepted procurement practice. To bring the ESA system more in line with accepted international practice, the most recent revision of its procurement rules introduced features such as the possibility of having a procurement decision reviewed, two-stage tendering and framework contracts as well as making regulations publicly available and keeping a thorough record of procedures, both to the benefit of transparency.

The reform of ESA procurement rules is therefore to be critically welcomed, as it entails a number of important optimisations and updates, although it lacked any fundamental debate on *juste retour*. It does thus not meet international standards in all aspects.

EU Procurement Rules

The examination of the general procurement rules for the EU suggests that they were originally not designed to fit a matter such as space. The usual EU procurements tend to have no or only little bearing on the respective market.

Procurement by the institutions on their own account is mainly governed by the 2002 Financial Regulation²¹ and its Implementing Rules²², covering (only) the implementation of the EU general budget.

The decision on what to procure and whether to procure at all is a matter of policy. Nonetheless, for all public contracts compliance with the principles of transparency, proportionality, equal treatment and non-discrimination is mandatory. There is no escape through delegation to third parties.

The procurement procedure must follow one of the following five forms: open procedure, restricted procedure, contests, negotiated procedure, and competitive dialogue. Whereas the open and restricted procedures serve as standard procedures, the application of the other procedures has to be duly justified.

The first hurdle for an economic operator is to be eligible for participation in the tendering procedure at all. The economic operator thus may not find itself in a situation giving rise to exclusion, and must pass the capability check in accordance with the pre-announced

selection criteria. The final award decision is based on the award criteria.

Participation is in principle open on equal terms to all natural and legal persons coming within the scope of the Treaties as well as to third parties on the basis of special agreements. The selection criteria, to be drawn up by the contracting authorities in a clear and non-discriminatory manner, serve the purpose of assessing the financial, economic, technical and professional capacity of the candidate or tenderer. The award criteria finally serve the evaluation of the supplies, works or services offered. Contracts are either awarded under the automatic award procedure to the tender which quotes the lowest price, or under the best-value-for-money procedure to the tender with the best price-quality ratio.

The underlying aim of the procedures is to strive for genuine competition. This objective is reflected e.g. in the requirements for publication of the envisaged contracts, well-documented calls for tenders specifying the subject and the exclusion, selection and award criteria in advance, minimum numbers of candidates, restrictions on contacts with the contracting authorities, time limits long enough to allow interested parties a reasonable and appropriate period to prepare and submit their tenders, or the confidentiality of tenders until opened simultaneously.

In addition, a number of Treaty provisions are of particular relevance in the field of public procurement, from the fundamental freedoms and competition and state aid rules to general principles such as equal treatment and non-discrimination, transparency, legal certainty, proportionality and mutual recognition. Primary EU law gains in importance where a lacuna of secondary law exists, notably for procurement procedures below the thresholds of the existing directives. It forms the basis, the frame and the limit for the powers of the EU.

One of the most important of these principles is the principle of equal treatment and non-discrimination. Article 18 (1) TFEU contains a prohibition of any discrimination on grounds of nationality as a fundamental expression of the principle of equality. Especially here, major conflicts occur with *juste retour* requirements.

Lastly, the Union is bound by a number of international treaties in the area of procurement, which expands the circle of possible participants in an EU procurement process.

The Union has (co-)financed space projects by multiple different approaches, offering *ad hoc* rules often tailored to the needs of the respective project. The two most prominent schemes evidently are those used in the Galileo and GMES projects. The Galileo FOC²³ procurement is the test case for *ad hoc* EU space procurement rules as set out in Article 17 GNSS Regulation. During the Galileo definition phase, both

ESA through its GalileoSat programme and the EC, mainly through its Framework Programmes for Research and Development, provided funding for technical studies, pre-developments and feasibility studies. The development and validation phase, including *inter alia* the launch of first experimental and operational satellites, has also been subject to co-financing by ESA via the GalileoSat and ARTES programmes and by the EC via FP6 and TEN-T. The deployment phase is funded entirely by the EU budget as a consequence of the failed Public-Private-Partnership approach. The Commission is responsible for the management of the funds allocated to the Galileo programme under the GNSS Regulation. ESA acts as procurement agent on behalf of the EU applying EU procurement rules. Project management and system prime activities are also delegated to ESA.

Compared to ESA, the EU is a fairly new actor in space. Space but “has an important and growing place in Europe's policy toolbox.”²⁴ Its growing ambitions in space combined with the differences between ESA and EU procurement law show the need for a new common approach. To this end, it is just as little a solution to force the Union to adopt ESA's procurement rules as it would be the other way around. Steps towards a common approach must be made at both ends. Nonetheless, there will be certain vertices which cannot be crossed; the EU is bound by the provisions of the Treaties and general principles, an amendment of which is highly unlikely or even impossible. Thus, a Third Way within the limits of EU primary law should be favoured. International obligations must equally be observed.

Transition of New Member States

The perspective of the new Member States to both ESA and EU is unique for their transformation experience, specifically in the area of public procurement. This valuable experience of the past 20 years – mainly the difficulties which the new Member States encountered - helps to point out the aspects which should be taken into account in order to shape a Third Way in European Space procurement and render it effective and appropriate for all its users.

Two decades ago, the communist system in Central and Eastern Europe (CEE) collapsed and its end marked the starting point of a truly exceptional, comprehensive and fundamental process of qualitative changes, including the transformation process from a planned economy to an economy where market forces lead the way. EU accession played a key role in the transformation process of the CEE countries. When looking more specifically at the transition to EU procurement, the following strengths and weaknesses difficulties common to the analysed new EU Member States (Czech Republic, Hungary, Poland) can be

identified. On the plus side, they have modern legal frameworks, institutional arrangements and/or properly functioning tools and systems for providing procurement information to the procurement market actors. The common difficulties can be divided and considered in three groups: (1) ethics and transparency in public procurement systems, (2) formalism in public procurement systems, and (3) frequent changes of the legal framework.

At present, especially the overall high complexity and over-regulation are problematic. There is a need to simplify the current public procurement law and avoid its frequent changes in order to achieve an effective and users-friendly legislative framework. This would have a positive impact on the overall public procurement culture and especially the transparency of the public procurement market. Transparency is currently not sufficient, *inter alia* because of varying knowledge among the entities involved and corruption.

In parallel to their EU accession aspirations, CEE countries undertook steps towards cooperation with ESA early on. The PRODEX²⁵ and especially PECS²⁶ aimed at preparing these countries for ESA membership, including creating and strengthening the respective industrial expertise and capacity. The procurement rules applicable under these schemes differ from those applicable to full members, guarantying e.g. the geographical return coefficient of 1 under the “European Cooperating State” scheme. The flexible approach of ESA, adopted in reaction to the needs and capacities of the CEE countries willing to cooperate (e.g. by creation of the concept of a European Cooperating State), has proven to be an aspect facilitating the transition to ESA rules and thus enhancing the cooperation between ESA and its prospective members. Cooperation with ESA has also had a positive impact on the industries of Hungary, Poland and the Czech Republic.

In light of the above, it is clear that European space procurement is a complex equation with many variables. Therefore, any regulatory framework for space procurement aimed at realising a common vision for Europe in Space must incorporate tools capable of supporting the implementation of the chosen policy objectives while at the same time paying due regard to the varying market conditions and retaining the largest possible measure of coherence.

III. ANALOGIES & EXTRA-PROCUREMENT INSTRUMENTS

For the development of a Third Way the study looks beyond the space sector and current ESA and EU procurement practice. Four analogies contribute useful ideas and lessons learned to the field of space

procurement, namely EUMETSAT, ITER, Defence and Security, and Aircraft Manufacturing.

EUMETSAT²⁷ is an international organisation providing satellite services to its users. It may serve as an example where the purchaser outsources the development of the space segment of its infrastructure to ESA but retains power over the definition of user requirements and final project authority. In so far as the project is funded by means of ESA contributions, i.e. funding provided by Member States participating in the specific optional ESA programme, the R&D contracts are governed by ESA procurement rules including *juste retour*. Conversely, EUMETSAT itself especially provides funding for the purchase of recurrent satellites, with ESA acting as procurement agent on its behalf. For this portion of the project, no *juste retour* requirements apply.

ITER²⁸ is a nuclear fusion reactor to demonstrate the scientific and technological feasibility of fusion energy for peaceful means. The contribution of EURATOM is pre-determined internationally and procured by Fusion for Energy (F4E), a Joint Undertaking established under the EURATOM Treaty. As a body with legal personality that receives contributions charged to the general budget of the EU and EURATOM, F4E is in principle subject to the general EU procurement rules. Deviation from these rules is possible upon the Commission's prior consent where required by the body's specific operating needs. F4E procurement rules are an illustrative modification of the general rules. They distinguish between procurement for administrative purposes and for operational tasks, i.e. objects that are generally of a highly innovative nature. This reflects a flexible approach towards regulating participation and choice of procedures.

European Defence and Security related procurements are subject to exceptions in the Treaties, most notably Art. 346 TFEU. Even where not subject to a Treaty exception, the special requirements of these sensitive procurements have recently been addressed by an EU procurement directive tailor-made for this sector. Whereas the defence and security sector is foremost concerned with procurement by EU Member States and not by the EU on its own account, the possibility to set up *ad hoc* projects and programmes with associated *ad hoc* budgets under the roof of the European Defence Agency (EDA) is noteworthy.²⁹ A global balance of industrial return may be ensured. This emulates to a certain extent the optional programmes known from the ESA system. EDA (in cooperation with OCCAR³⁰) enters the space domain for the first time with the MUSIS³¹ programme, whose generic user ground segment has been approved as an EDA *ad hoc* programme.

The aircraft manufacturing sector highlights the case where less intra-European competition, even the

creation of a European champion, is acceptable for the benefit of fostering and sustaining a globally competitive industry of strategic importance. The nexus between public subventions and public procurement is exemplified by the WTO disputes as well as the US procurement of a new tanker fleet, both featuring Airbus and Boeing.

The study also explores ways to implement policy objectives, in particular to strengthen European competitiveness and to provide for a sustainable and balanced development, by other means than procurement. These so-called 'Extra-Procurement Instruments' include *inter alia* the funding schemes of the EU cohesion and structural funds, the role of the European Investment Bank, and EU and ESA instruments for funding research and development. Extra-procurement instruments are complementary to tools for space procurement in order to achieve the envisaged policy objectives and are scrutinised for necessary adaptations to the space sector.

III. TOOLS FOR SPACE PROCUREMENT

In order to develop a Third Way, the study compiles twenty-seven generically defined tools that are of potential use for space procurement and undertakes a multi-faceted analysis. It thereby checks each tool against its viability to attain the pre-defined policy objectives, its impact on different market segments and its legality under ESA and EU rules.

1. Definition of Programme and Procurement Object
2. Participation Rules: Restrictions, Preferences based on Nationality
3. Work Package: Splitting, Sizing
4. Restricting the Individual Bidding Possibilities
5. Balance Advantage of Pre-Involved Contractors
6. Multiple Sourcing
7. Sole Sourcing via Joint Ventures
8. Sole Sourcing via IPR Regime
9. Sub-contracting
10. n-State Criterion
11. Know-How Transfer
12. Best Value for Money as Award Criterion I
13. Best Value for Money as Award Criterion II
14. Concentration Correcting Mechanism
15. Nationality as Award Criterion
16. Varying Degrees of Advantage given to SMEs of Research Institutions
17. Abnormally Low Tenders
18. Weighing of Votes based on Financial Contribution
19. Prior Market and Capacity Analysis and Prequalification Procedures

20. Contact Between Bidders as well as Between Bidders and Contracting Authority
21. Flexibility in Procurement Procedure
22. Commencement of Work Prior to Signature of Contract
23. Framework Agreements & Options in Contracts
24. Contract Duration
25. Re-negotiation and Contract Changes
26. Legal Remedies
27. Monitoring and Statistics

The legal assessment of each tool shows that the EU and the ESA already have a number of these tools at their disposal, albeit that their use is not consistent. This result does not come as a surprise as many of the tools originate from an ESA or EU procurement context. EU and ESA practice may, however, differ substantially

depending on the tool and their respective legal framework.

IV. CONCLUSION

The ‘Third Way’ advocated in our study aims to cater for both coherence and flexibility needs. Policy and programming offer the necessary flexibility for combining the activities and funding by different European actors and for choosing the suitable set of procurement tools and extra-procurement instruments within the outlined legal framework. This flexibility acknowledges requirements of a specific programme and subsequent procurement and trumps a model with rigid pre-defined rules. In other words, the ‘Third Way’ is intended to serve policy-makers for finally making ‘Europe in Space’ a reality.

¹ The research leading to these results has received funding from the European Union’s Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 242286.

² Hobe/Hofmannová/Wouters (eds.), *A Coherent European Procurement Law and Policy for the Space Sector: Towards a Third Way*, Lit-Verlag, Münster 2010 (forthcoming); FP7-Grant Agreement No. 242286.

³ Based primarily on the resolutions of the joint ESA-EU “Space Council”, <http://ec.europa.eu/enterprise/policies/space/documents/esp_en.htm> (31.8.2010).

⁴ Cf. Art. 311 Treaty on the Functioning of the European Union [TFEU].

⁵ Cf. Art. 18 Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities [FR], OJ L 357 of 31.12.02, p.1, as amended; cf. Art. 4 (4) Regulation (EC) 683/2008 of the European Parliament and of the Council of 9 July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo) [GNSS Regulation], OJ L 196 of 24.07.08, p. 1.

⁶ Cf. for instance 5th Space Council held on 26 September 2008, resolution annexed to EU Council Resolution of 29 September 2008 on “Taking forward the European Space Policy”, Council doc. 13569/08, p. 6; 4th Space Council held on 22 May 2007, resolution annexed to EU Council Resolution of 25 May 2007 on “Resolution on the European Space Policy”, Council doc. 10037/07, p. 10.

⁷ EU: Principle of sound financial management, Art. 317 TFEU, Art. 3, 27 et seq., 48 FR, op. cit.; ESA: “meet the requirements of the European space programme [...] in a costeffective manner”, Art. VII (1) a) ESA Convention.

⁸ Cf. e.g. 4th Space Council, Resolution on the European Space Policy”, EU Council doc. 10037/07, p. 12.

⁹ Art. VII (1) ESA Convention.

¹⁰ Annex V, Art. II (1) ESA Convention.

¹¹ European Space Policy Progress Report, COM(2008)561 final, p. 14.

¹² E.g. 5th Space Council, “Taking forward the European Space Policy”, Council doc. 13569/08, pp. 3 et seq., 4th Space Council, “Resolution on the European Space Policy”, Council doc. 10037/07, p. 5; 3rd Space Council held on 28 November 2005, p. 2; 2nd Space Council held on 2 June 2005, p. 5.

¹³ European Space Policy Progress Report, COM(2008)561 final, p. 17.

¹⁴ Formulations include: “Balanced involvement of capacities in Europe”, 6th Space Council held on 15 June 2009, resolution annexed to EU Council Resolution of 29 May 2009 on “The Contribution of space to innovation and competitiveness in the context of the European Economic Recovery Plan, and further steps”, Council doc. 10500/09, p. 8; “Balanced industrial structure”, 5th Space Council, “Taking forward the European Space Policy”, Council doc. 13569/08, p. 6, 4th Space Council, “Resolution on the European Space Policy”, Council doc. 10037/07, p. 10; and “[...] the balanced participation of industry at all levels, including, in particular, SMEs, across Member States [...]”, Art. 17 (2) a) GNSS Regulation, op. cit.

¹⁵ Art. VII (1) c) ESA Convention.

¹⁶ Cf. for instance Art. 5 (3) ESA-EU Framework Agreement.

¹⁷ Art. 17 (2) a) and b) GNSS Regulation, *op. cit.*

¹⁸ ESA/C (2008)202, 17 December 2008.

¹⁹ General Clauses and Conditions for ESA Contracts, ESA/C/290, rev.6, as available at <http://emits.esa.int/emits-doc/ESRIN/e_support/290rev6-Engl.pdf> (31.8.10)

²⁰ ESA/IPC(2005)34, rev.3.

²¹ Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities [FR], OJ L 357 of 31.12.02, p.1, as amended.

²² Commission Regulation (EC, Euratom) No 2342/2002 of 23 December 2002 laying down detailed rules for the implementation of Council Regulation 1605/2002/EC, Euratom on the Financial Regulation applicable to the general budget of the European Communities, OJ L 357 of 31.12.2002, p. 1, as amended.

²³ Full-operational capability, deployment phase of Galileo.

²⁴ Cf. <http://ec.europa.eu/enterprise/policies/space/esp/eu-policies/index_en.htm> (20.01.10).

²⁵ PROgramme de Développement d'EXpériences scientifiques.

²⁶ Plan for European Cooperating States.

²⁷ European Organisation for the Exploitation of Meteorological Satellites, <<http://www.eumetsat.int>> (31.8.10),

²⁸ Cf. <<http://www.iter.org/>>, (31.8.10).

²⁹ Cf. Art. 20-25 of Council Joint Action 2004/551/CFSP of 12 July 2004 on the establishment of the European Defence Agency, OJ L 245 of 17.07.04, p. 17, as amended.

2008/299/CFSP of 7 April 2008, OJ L 102 of 12.4.08, p. 34, consolidated version (7.4.2008).

³⁰ Organisation Conjointe de Coopération en matière d'ARmement <<http://www.occar-ea.org/>> (31.8.10).

³¹ Multinational Space-based Imaging System.