

Space security and the European Code of Conduct for Outer Space Activities

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Space security, generally understood as being concerned with the absence of unjustifiable man-made or natural threats to space assets, has become critical to the well-being of humanity, given the heavy reliance of modern societies on space vehicles and their applications. The concept of space security is supported by governments as well as by those sectors of industry and business that are investing heavily in space. Accordingly, a number of initiatives to ensure space security have been put forward over the years, in particular with a view to prevent the weaponization of space or an arms race in space.

The existing multilateral laws and regulations applicable to space can be subdivided into treaties, bilateral agreements and United Nations General Assembly resolutions. The fundamental framework is provided by the Charter of the United Nations, which aims at international peace and security by obliging Member States, among other things, to refrain from forceful measures against the integrity or independence of states, while at the same time respecting their right to self-defence.

Chronologically, the Partial Test-Ban Treaty (PTBT) of 1963 is the first international treaty on arms limitation in outer space. This is an activity-specific instrument that bans nuclear tests and explosions, but does not prohibit placing weapons in outer space per se. The basic document devoted to regulating outer space is the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty), along with the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space,¹ on which the Outer Space Treaty (OST) is largely based. The OST forbids placing nuclear weapons or other weapons of mass destruction (WMD) in Earth orbit, and it prohibits testing and deploying any weapon on the Moon or other celestial bodies, reserving them exclusively for peaceful purposes.² The 1972 Liability Convention specifies that launching states are responsible for damage inflicted upon other states by their space objects and sets up a compensation procedure. The 1979 Moon Agreement reiterates the principle of peaceful purposes and in a more general sense aims at preventing the Moon and other celestial bodies from becoming areas of international conflict.³

Other international treaties also cover areas relevant to space security. The Constitution of the International Telecommunication Union addresses the usage of the radio frequency spectrum for satellites. While affirming the right of member states to military radio installations, it also calls on member states to abide by the principle of no harmful interference, which is defined in the annex to the constitution. The Comprehensive Nuclear-Test-Ban Treaty (CTBT) foresees the ban of nuclear explosions in all environments, but it has not yet entered into force.

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Bilateral negotiations and agreements between the Soviet Union and the United States also relate to outer space. Article XII of the Anti-Ballistic Missile (ABM) Treaty covers interference with national technical means, such as spy satellites. SALT II, the Strategic Arms Limitation Treaty, extended these provisions. However, following the United States' withdrawal in 2002, the ABM Treaty is today deemed void, and SALT II never became legally binding. The Strategic Arms Reduction Treaty (START I), signed by the Soviet Union and United States in 1991, introduced transparency and confidence-building measures (TCBMs). The START I provision banning interference with national and multilateral technical means of verification was made multilateral by the Conventional Armed Forces in Europe (CFE) Treaty (Article XV).⁴

United Nations General Assembly resolution 1721 (XVI) of 1961 established the application of general international law, in particular the UN Charter, to outer space. It can be seen as a first step toward a legal regime for space with liability obligations. Several other General Assembly resolutions followed over the years, such as the Principles Declaration, which formed the basis for the OST.

In 1981, Italy introduced a draft resolution to the United Nations entitled "Prevention of an Arms Race in Outer Space" (PAROS) on behalf of the Western European and Other States group.⁵ This resolution called on the Committee on Disarmament (today the Conference on Disarmament, or CD) to negotiate agreements preventing an arms race in outer space and explicitly stated that military uses of space were in contradiction to the OST. However, CD discussions about PAROS came to a standstill in 1995, when China insisted on linking PAROS to the Fissile Material Cut-off Treaty (FMCT), which was considered unacceptable by the United States. Since then, China and the Russian Federation have been trying to advance negotiations on a treaty preventing the weaponization of outer space with a number of alternative proposals,⁶ and PAROS resolutions have been passed by the General Assembly every year since it adopted the first one. More recently, and taking a slightly different approach again, UN General Assembly resolution 61/75 of 2006, introduced by the Russian Federation, invited Member States to inform the Secretary-General of their views on transparency and confidence-building measures in the interest of PAROS.⁷ Resolution 62/43 also called for TCBMs and referred to the Secretary-General's report on Member States' concrete proposals for TCBMs following resolution 61/75.⁸

The United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) was set up in 1959 to explore international cooperation in outer space activities, to encourage research and the dissemination of information on outer space matters, and to study legal problems arising from the exploration of outer space. The Committee meets annually. COPUOS has achieved the most recent agreement related to outer space activities: in 2007 it adopted debris mitigation guidelines.⁹

The recent attempts to introduce additional measures to counter a possible weaponization of space demonstrate that the existing legal framework is largely regarded as insufficient. However, diverging opinions on how to move forward persist.

The case for a code of conduct

Given the deadlock in relevant CD discussions, the US National Space Policy of 2006 (opposing the development of new legal regimes infringing its right to use and access space), and the renewed focus on TCBMs, the idea of a code of conduct for outer space activities has been gaining ground. A code of conduct is a non-legally binding instrument, where adhering states voluntarily commit themselves to rules of the road. It can be seen as an ultimate goal in itself, or as a stepping stone toward a legally binding treaty. On the one hand, because it constitutes soft law, a code of conduct is easier to agree to and potentially avoids lengthy discussions about definitions, but can still give significant impetus to both national and international political processes. In fact, proponents argue that provisions

contained in a code of conduct are likely to eventually become customary international law. On the other hand, there is a danger that such codes detract attention from ongoing promising efforts toward a stronger instrument.

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Proponents of a code of conduct for space activities often refer to The Hague Code of Conduct against Ballistic Missile Proliferation (HCOC), brought into effect in November 2002, as a successful example of how soft law can be respected. The HCOC foresees pre-launch notifications and other TCBMs for ballistic missiles with WMD capabilities. Voluntary in nature, it does not feature formal consequences for non-compliance. The HCOC has been signed by more states than the OST, and although it is not legally binding, with 130 signatories, its political force is widely considered as instrumental to preventing missile proliferation.

In 2002, the Henry L. Stimson Center issued a study listing the advantages of a code of conduct for outer space activities. It then introduced three draft codes in 2004, 2006 and 2007.¹⁰ While the first version included definitions for relevant terms like debris, anti-satellite (ASAT) and space weapons, subsequent versions refrained from such attempts in order to facilitate consensus. The codes also mention rights and obligations of spacefaring nations without spelling out verification provisions. The underlying idea was to establish rules that would then develop into norms and potentially into treaties.

While Chairman of COPUOS, Gérard Brachet took a different approach. He presented a working paper for future COPUOS activities with a view to ensuring long-term space security,¹¹ on which basis he gathered a group of experts from different backgrounds, including industry and operators, to draft the so-called Brachet Code of Conduct. The Brachet Code of Conduct, in contrast to the EU Code of Conduct, addresses specific technical issues and is likely to include threats ranging from natural sources to space weather. The Brachet Code of Conduct also involves national technical experts for the related topics, and in taking such a bottom-up approach, it is not meant to compete with or replace the EU Draft Code of Conduct. It is still in the drafting process and shall be formally presented to COPUOS's Scientific and Technical Subcommittee in February 2010.

The European Draft Code of Conduct

GENESIS

Aiming at putting arms control in space on the EU agenda, Germany, holding the Presidency of the Council of the European Union, organized a workshop on "Security and Arms Control in Space and the Role of the EU" in June 2007 in Berlin. The Deputy Commissioner for Arms Control and Disarmament of Germany, Ambassador Rüdiger Lüdeking, supported the idea of a code of conduct, acknowledging at the same time the importance of an incremental approach and not precluding parallel or subsequent measures.¹² Italian Ambassador Carlo Trezza reiterated the objective of a legally binding agreement regarding security in outer space, but also stated that there was a tendency within the EU to prefer "less ambitious schemes" and that a potential code of conduct could embody corresponding measures. Ambassador Trezza referred to a food-for-thought paper by Italy presented to CODUN, the EU working group on disarmament, in March 2007, comprising several principles, including adhering to and implementing existing commitments, both binding and non-binding; preventing space from becoming an area of conflict; respecting the role of space for general security; and refraining from utilizing space objects harmfully against other space objects.¹³

In September 2007, the European Union called on COPUOS to consider a more specific space code of conduct rather than the general analysis of potential rules of the road that had been previously

suggested.¹⁴ Later on, at the United Nations, Portugal (on behalf of the EU) stated that the broad support for UN General Assembly resolutions on TCBMs for outer space and PAROS, which the EU had voted for unanimously, showed the European dedication to set up TCBMs and to draw up a “code of conduct” and “rules of behaviour” in space.¹⁵

Building upon discussions around the Italian food-for-thought paper, the Portuguese EU Council Presidency drafted a first version of a European Union Code of Conduct in the second half of 2007. An updated version, entitled “Best Practice Guidelines for / Code of Conduct on Outer Space Activities”, was circulated in the beginning of 2008, under the Slovenian Presidency. After accounting for several comments, the document was agreed upon in June 2008. In parallel, the Netherlands issued a plan for discussing the code with key partners and for modalities to promote it in relevant international forums.¹⁶ The EU and the United States exchanged views. Talks were also held with China and the Russian Federation. France took over the EU Council Presidency in July 2008 and made the proposal a priority. It sought to make the code acceptable to as many states as possible. In December 2008 the Council of the European Union officially released its Draft Code of Conduct for Outer Space Activities.¹⁷

CONTENT

The main purpose of the Code of Conduct is twofold. On the one hand it aims to strengthen existing United Nations treaties, principles and other arrangements, as subscribing states commit to make progress toward adhering to them, implementing them and promoting their universality. On the other hand, it aims to complement the United Nations treaties, principles and other arrangements by codifying new best practices in space operations, including notification and consultation. This should strengthen confidence and transparency among space actors and contribute to developing good faith solutions that allow access to space and the carrying out of space activities for all.¹⁸

The Draft Code of Conduct comprises a preamble and 12 articles, subdivided into four sections: Core Principles and Objectives, General Measures, Cooperation Mechanisms and Organisational Aspects. In the preamble, the EU recognizes the “need for the widest possible adherence to relevant existing international instruments”. It also clarifies the underlying principles of the code, which clearly show the mediating position of the EU as they take into account the main concerns of the key spacefaring nations. The preamble states that a comprehensive approach to safety and security in space should be based on freedom of access to space for all for peaceful purposes (accounting for US claims), preservation of the security and integrity of space objects in orbit, and due consideration for the legitimate defence interests of states.

Additional general principles to be followed by the subscribing states are laid down in Article 2, such as “the freedom of access to, exploration and use of outer space and exploitation of space objects for peaceful purposes without interference, fully respecting the security, safety and integrity of space objects in orbit”. The other principles address the right of self-defence as well as states’ responsibility to prevent harmful interference and to promote peaceful exploration, preventing space from becoming an area of conflict.

Sections II and III introduce the rules of the road, augmented by relevant provisions covering space debris and notification of manoeuvring. Article 4 deals with space operations, Article 5 with space debris control and mitigation, and Articles 6–10 cover notification, registration, information, and consultation and investigation. Article 7 aims at complementing the Registration Convention by calling upon subscribing states to register space objects and to provide the UN Secretary-General with relevant data, referring to UN General Assembly resolution 62/101 on registering space objects. Additionally, “Subscribing States resolve to share, on an annual basis, and, where available, information

on: national space policies and strategies, including basic objectives”, rules of the road, space debris strategies and environmental conditions and forecasts (Article 8). Compliance and verification are ensured through a consultation mechanism and an investigation mechanism. The first allows subscribing states “with reason to believe that certain outer space activities conducted by one or more Subscribing State(s) are, or may be, contrary to the purposes of the Code” to request consultations (Article 9.1). The investigation mechanism may be agreed at a later point in time. It “could be based on national information and/or national means of investigation provided on a voluntary basis by the Subscribing States and on a roster of internationally recognised experts to undertake an investigation” (Article 9.2). The Draft Code of Conduct foresees biennial meetings “or as otherwise agreed” to review the implementation of the code and its evolution (Article 10.1). A “central point of contact” is to be nominated to deal with new subscriptions, to maintain the information-sharing system, to serve as a secretariat at the biennial meetings and to carry out other tasks as agreed (Article 11).

Comparing the first draft with the released version, one can identify a shift in language. Formulations like “shall” and “agree” have been replaced by “will” and “decide” in all relevant provisions. The whole proposal has become stronger in its wording. Moreover, its title changed from “Best Practice Guidelines” to “Code of Conduct” (most probably due to the fact that the proposal had become known as such outside the EU). Greater emphasis is placed on national doctrines as, for example, some of the direct references to the UN Charter or UN General Assembly resolutions have been removed from the preamble as well as from Article 3.1, which now no longer refers to the UN Charter explicitly but to the existing legal framework only. An explicit reference to Article 51 of the UN Charter, which the United Kingdom and the United States would have liked to include, was not approved by several EU member states, including Germany, Italy and the Scandinavian countries and was thus replaced by a more general formulation referring to the UN Charter only but not to Article 51. Along the same lines, while Article 4.2 sets up concrete space debris mitigation guidelines, Article 4.3 softens these guidelines by permitting manoeuvres with the objective of repairing space objects, mitigating debris, avoiding collisions or managing space traffic, provided that “all reasonable measures to minimise the risks of collision” have been taken. Thus, the draft represents a compromise, enhancing the chance of successful third-party talks. It is important to remember that the EU is eventually aiming at a legally binding treaty: while the Draft Code of Conduct is not legally binding, it could become customary law, but this depends on how many states agree to abide by it.

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There are issue areas that the Draft Code of Conduct does not address at all: for example, it does not refer to temporary interference with space objects. Neither does it give indications on the preferred negotiation forum for space security issues. Contrary to the objective put forward in Italy’s food-for-thought paper, the draft code does not address potential overlap between future activities at the CD and at COPUOS. The Draft Code of Conduct also lacks provisions tackling “keep-out zones” or “long-lived space debris”.¹⁹ The code focuses instead on behavioural recommendations, which allows the EU to circumvent negotiations on definitions, in contrast to the proposals from China and the Russian Federation (which employ negative definitions, i.e. prohibitions). However, this approach also precludes the EU from “specifying actions, situations, timeframes and spatial conditions” in detail.²⁰

DEVELOPMENT SINCE RELEASE

The French EU Council Presidency had already introduced the Draft Code of Conduct to the US administration in the last quarter of 2008, before it was officially released in December 2008. The United States compiled a list of comments and changes. After its release, the Czech Presidency of the

EU held a series of bilateral talks and discussions with other spacefaring nations with the intention of reaching a consensus text that would be acceptable for as many states as possible. During this first round Brazil, Canada, India, Indonesia, Israel, Japan, Republic of Korea, South Africa and Ukraine were consulted. The Swedish Presidency will now proceed with the second round of consultations with, inter alia, China, the Russian Federation and the new US administration.

Information on the progress of these bilateral talks has been kept to a minimum. The main reason for this confidentiality is that the CODUN group does not want to complicate future negotiations by making unauthorized information available. It has so far not been made public how the EU member states will deal with the comments, criticism and amendments brought forward in these bilateral consultations.

OBSTACLES AND ISSUES

The content of the final Code of Conduct, its forum of negotiation, as well as the mode of adoption all need further clarification. Obstacles to the code's final adoption can be subdivided into inter-European difficulties and sets of problems with third countries.

In a statement by the Czech Presidency at COPUOS in 2009, it was made clear that the code is a basis for informal discussion in international forums but it is not meant to be officially introduced and discussed in any existing international forum such as COPUOS or the CD.²¹ The EU Presidency will, however, continue to inform multilateral bodies on the progress of the Code of Conduct initiative. It is envisaged that at the end of the consultation process an ad hoc conference will be organized in order for states to subscribe to the Code of Conduct.²²

This is the official common EU position, but there seems to be some debate among EU member states regarding whether the Code of Conduct should remain outside of the traditional negotiating forums. The initial idea had been to conduct independent negotiations outside CD and COPUOS, taking the Ottawa process (which led to the Mine Ban Treaty) as an example, and to circumvent the deadlock in the CD. There are fears, however, that the ad hoc conference may have unintended consequences, such as the questioning of existing principles of space law, particularly those of the OST. While the Draft Code of Conduct will not be affected by such debates immediately, implementation

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of and adherence to the code could be harmed eventually: space security efforts could be sidetracked and the existing space law regime could itself be damaged.

Regarding third countries, the United States' strong opposition to initial drafts of the code has led to the weakening of its wording.²³

It is possible that the recent change in the US administration may result in a greater openness to discussions and a stronger Draft Code of Conduct. In contrast, while the EU is following its schedule on bilateral consultations, China and the Russian Federation continue to promote their proposal for a legally binding treaty. The two states recently announced the finalization of an information document for the CD entitled *Basic issues and comments on the draft agreement to prevent the placement of weapons in space, or the use of force or threat of force against objects in space*. At the beginning of the General Assembly this year, both countries urged CD members to submit proposals on the issue of confidence-building measures in outer space.²⁴ Russia and China's continued focus on the treaty approach leads one to assume that their approval of the EU's Code of Conduct would be tied to some kind of support by the EU for the Chinese–Russian draft treaty.

The way ahead

While the Draft Code of Conduct stresses that it does not intend to replace other initiatives and that it complements and contributes to those initiatives by underlining the importance of taking all measures to prevent space from becoming an area of conflict, it has to be acknowledged and accepted that it has already developed into a singular project.

First of all, it does not only provide mid-term operative mechanisms but also contains the perspective for a future comprehensive regulation of space activities: space traffic management (STM). The term has been around for a number of years, but only a study by the International Academy of Astronautics (IAA), prepared between 2001 and 2006, looked into STM in an interdisciplinary and fundamental way.²⁵ The International Space University (ISU) and the International Association for the Advancement of Space Safety (IAASS), among others, have also undertaken work on space traffic management since this initial study.

STM is defined as “a set of technical and regulatory provisions for guaranteeing safe access to outer space, operation in outer space and return from outer space to Earth free from physical or radio-frequency interference”.²⁶ STM is not about tackling single issues, but regards the regulation of space activities as a comprehensive concept, based on the idea of regarding space activities “as a traffic system and not as disconnected activities of States”.²⁷ It is a permanent solution to the issues of safety and security in space.

As we have seen, the existing treaties and regulations on space are neither complete nor harmonized, with some provisions being more advanced than others and many provisions entirely absent (i.e. on the avoidance of polluting the atmosphere/troposphere or any obligation regarding pre-launch notifications). Nonetheless, they do provide the basic elements for a space traffic management regime. Thus, the idea at this point is to counter the lacunae and ambiguous provisions within the existing framework in the form of a new international intergovernmental agreement, which is complementary to the existing legal structure and will establish a comprehensive STM regime. The Code of Conduct can be seen as an element of the proposal to establish a comprehensive space traffic management regime.

STM requires data, i.e. a space situational awareness system. This in turn requires the creation of a database through a notification system that includes pre-launch notification (with more, and improved, data than that which is currently supplied to the Registration Convention), pre-notification of orbital manoeuvres and active de-orbiting, and provision of information on the end of the active and operational lifetime of space objects. From this database the comprehensive STM regime could then draw up rules in the following areas:

- safety provisions for launches;
- safety provisions for human spaceflight;
- zoning (selection of orbits);
- right of way rules for in-orbit phases;
- prioritization with regard to manoeuvre;
- specific provisions for geostationary and low Earth orbit, respectively;
- debris mitigation mechanisms;
- safety provisions for re-entry; and
- environmental provisions.

STM would also clarify the concept of the “launching State” as well as the definition of “space objects”. Moreover, STM would provide answers to questions of liability, setting forth an enforcement

mechanism as well as a provision covering dispute settlement.²⁸ Clearly, STM requires strong oversight,²⁹ but it can be considered the appropriate means for guaranteeing the conduct of space activities in accordance with the principle of “no harmful interference” contained in the OST.³⁰

The Draft Code of Conduct is also of special interest as it the most visible and substantive diplomatic effort of Europe in space policy and regulation so far,³¹ and exemplifies the EU’s current evolution into a more active international player in space matters. The code’s reception demonstrates the influence Europe has assembled today: the EU is in the process of becoming a normative power advocating the prevention of an arms race in space. The Code of Conduct project is thus part of a larger EU space policy. The EU needs to develop its formative role and display its principled identity more strongly,³² so that it has a firm base from which to take a position when other space-related issues arise. Such issues include the set-up of a European SSA system (possibly involving trans-Atlantic cooperation), the increased role of space assets in internal security, or a European approach to responsive space (i.e. more flexible space assets that can be developed and launched more rapidly).³³ For all of these issues, international cooperation remains of utmost importance. Through the Draft Code of Conduct, Europe is presenting both a substantive mechanism for dealing with problems of security in space and a promising diplomatic approach to reach a broadly acceptable result.³⁴

Notes

1. UN General Assembly resolution 1962 (XVIII), 13 December 1963.
2. The OST touches upon other issues as well, which subsequent agreements address in more detail. For an in-depth account of the OST see Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), 2009, *Cologne Commentary on Space Law, Volume 1: Outer Space Treaty*, Cologne, Heymanns.
3. Pericles Gasparini Alves, 1991, *Prevention of an Arms Race in Outer Space. A Guide to the Discussions in the Conference on Disarmament*, Geneva, UNIDIR.
4. Jonathan Dean, 2002, “Future Security in Space: Treaty Issues”, *INESAP Information Bulletin*, no. 20, August.
5. See UN General Assembly resolution 36/97C, 9 December 1981.
6. For a detailed comparison of the different elements of these various proposals refer to Wolfgang Rathgeber and Nina-Louisa Remuss, 2009, *Space Security: A Formative Role and Principled Identity for Europe*, ESPI report 16, Vienna, January. The main documents referred to are Possible Elements for a Future International Legal Agreement on the Prevention of the Deployment of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects, CD/1679, 28 June 2002, which was supplemented by various working papers (CD/1778, CD/1779, CD/1781, CD/1784, CD/1785 and CD/1786 as well as revised versions like CD/1818), and the Draft Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects, in CD/1839, 29 February 2008.
7. UN General Assembly resolution 61/75 of 6 December 2006, UN document A/RES/61/75, 18 December 2006.
8. UN General Assembly resolution 62/43 of 5 December 2007, UN document A/RES/62/43, 8 January 2008.
9. More information on COPUOS can be found on the UN Office for Outer Space Affairs web site, at <www.oosa.unvienna.org/oosa/en/COPUOS/copuos.html>.
10. Henry L. Stimson Center, 2007, Model Code of Conduct for Responsible Space-Faring Nations, at <www.stimson.org/pub.cfm?ID=575>.
11. COPUOS, *Future Role and Activities of the Committee on the Peaceful Uses of Outer Space*, UN document A/AC.105/L.268, 10 May 2007.
12. Quoted in Marcel Dickow, 2009, “The European Union Proposal for a Code of Conduct for Outer Space Activities”, in Kai-Uwe Schrogl, Charlotte Mathieu and Nicolas Peter (eds), *Yearbook on Space Policy 2007/2008: From Policies to Programmes*, Vienna, SpringerWienNewYork, pp. 153–154.
13. Ambassador Carlo Trezza, “A Possible Comprehensive Code of Conduct for Space Objects in an EU Perspective”, presentation made to the EU workshop on “Security and Arms Control in Space and the Role of the EU” held in Berlin, 21–22 June 2007, at <sedi.esteri.it/rapparm/2007.06.21.22-trezza-InterventoConferenzaUEBerlinospazio.rtf>.
14. Theresa Hitchens, “COPUOS Wades into the Next Great Space Debate”, *Bulletin of the Atomic Scientists*, 26 June 2008.
15. Statement by Portuguese Ambassador José Júlio Pereira Gomes on behalf of the European Union to the First Committee Thematic Discussion on Other Weapons of Mass Destruction, Sixty-Second Session of the United Nations General

- Assembly, 19 October 2007, at <www.delegfrance-cd-geneve.org/declarations/unioneuropeenne/unga_owmd_eu_statement.doc>.
16. Marcel Dickow, op. cit.
 17. Draft Code of Conduct for Outer Space Activities, EU Council, document 17175/08, PESC 1697, CODUN 61, Brussels, 17 December 2008, Annex II, at <register.consilium.europa.eu/pdf/en/08/st17/st17175.en08.pdf>.
 18. A summary of the EU report to COPUOS can be found in *Report of the Committee on the Peaceful Uses of Outer Space*, UN document A/64/20, New York, 2009, paragraph 45.
 19. Marcel Dickow, op. cit., p. 160.
 20. Marcel Dickow, op. cit. For a more detailed comparison of the Code of Conduct with other proposals refer to Rathgeber and Remuss, op. cit.
 21. "Draft EU Code of Conduct for Outer Space Policies", information note delivered by Petr Lála informing COPUOS about CODUN activities, Vienna, June 2009.
 22. "Statement by the Czech EU Council Presidency under Item 4: General exchange of views", United Nations Committee on the Peaceful Uses of Outer Space, Fifty-second session, Vienna, 3–12 June 2009.
 23. Rathgeber and Remuss, op. cit.
 24. Ray Acheson, "Collective Security as National Security", *CD Report, Reaching Critical Will*, 25 August 2009.
 25. Corinne Contant-Jorgensen, Petr Lála and Kai-Uwe Schrogl (eds), 2006, *Cosmic Study on Space Traffic Management*, Paris, International Academy of Astronautics, at <iaaweb.org/iaa/Studies/spacetraffic.pdf>.
 26. Ibid.
 27. Kai-Uwe Schrogl, 2008, "Space Traffic Management: The New Comprehensive Approach for Regulating the Use of Outer Space", *Acta Astronautica*, vol. 62, nos 2–3, January–February, pp. 272–276, October, Vienna.
 28. Contant-Jorgenson et al., op. cit., pp. 14–15.
 29. Schrogl, op. cit., pp. 3–4.
 30. Contant-Jorgenson et al., op. cit., p. 10.
 31. Before this, Europe has only made one joint initiative of such weight: in 1998 it called on COPUOS for an improvement of the Registration Convention, out of which the two recent UN General Assembly resolutions on the legal concept of the "launching State" and on registration practice emerged (resolution 59/115 of 10 December 2004, UN document A/RES/59/115, 25 January 2005; resolution 62/101 of 17 December 2007, UN document A/RES/62/101, 10 January 2008).
 32. Rathgeber and Remuss, op. cit.
 33. For a detailed discussion on the various concepts for responsive space refer to Nina-Louisa Remuss, forthcoming 2010, *Responsive Space: Elements of a Roadmap for Europe*, ESPI Report 22, Vienna.
 34. For the relevance of this initiative as a major diplomatic step for Europe, see Laurence Nardon, 2009, "UE/Espace. Une puissance spatiale de plus en plus compétente", *Rapport annuel de l'Institut français des relations internationales (RAMSES) 2010*, Paris, IFRI, September.

