The European Space Policy: A Security Policy in Disguise

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Introduction

"Space may well become the next 'big' project of European security and defence policy integration, if not of European integration *per se*."[1]

By the end of the 20th century, the European Union (EU) began to increase its policy agenda towards a more security- and defence-oriented perspective. The evolution of the European Security and Defence Policy (today: Common Security and Defence Policy) was seen as the next step in Europe's role as a global player and was, according to enthusiasts towards this development, considered to be the logical next step.[2] During the 2000s, the implementation of the security dimension increased the awareness and importance of space significantly. The European institutions drafted several documents on Europe's role in space, established the European Defence Agency (EDA) to deal solely with European defence and security issues, intensified the cooperation with and, ultimately, aligned the European Space Agency (ESA) to the EU framework. Subsequently, these evolutions increased the importance of security as a political area and particularly for space in particular.

Resultantly, these developments contributed to Europe's increased role as a global player in the international systems. The initial quote by Iraklis Oikonomou gives credit to this development and adequately points out the European Union's mission statement in terms of space security. In the last ten years, the importance of space, especially in terms of security, has significantly increased and has advanced Europe's position in the world.

This essay will focus on the development of space policy and assess how the EU expanded its space policy towards security. In this regard, it will be argued that the expansion of Europe's space policy towards the security dimension was a strategic development, serving the retention and enhancement of EU's long-term goal of becoming a competitive global player. Within this developmental process, the EU broadened the meaning of security, pursued institutional changes and amplified its space initiatives like Galileo and GMES towards the security dimension.

Specifically regarding Europe's space policy, it has to be recognised that "[…] as one industry expert […] baldly explained, the sensitive word 'military' was carefully replaced by 'security' to smoothen acceptance of their research agenda"[3]. Initiatives like GMES and Galileo were initially promoted as civilian projects but can be considered projects with dual-use capability due to the developments during the 2000s.

The first section will deal with the aspects of the security expansion process and will outline significant factors for the development of a security dimension in Europe in general and space in particular. The subsequent section will put the focus then on space and outline the introduction of the security dimension into this policy area before concluding thoughts will finalize this essay.

Aspects of the Security Expansion Process

The 1998 Saint Malo summit is considered a turning point for the EU in its development from a solely civilian and

economic community towards a security community. The subsequent development of the CFSP removed, as Howorth states, the obstacles Europe faced in order to deal with this policy area because they hindered the Union "[…] from evolving and maturing as a global political actor"[4]. Through this development, the EU attempted to close the gap the United States had left after its increased disengagement in Europe. Additionally, it was also realised that Europe needed an increased and coordinated security framework, so that failures like the war in Bosnia (1992-1995) would not happen again.

The evolution of the CSDP in the aftermaths of the Saint Malo summit therefore marks the starting point for the establishment of a shared security understanding of the EU member states. This development evolved through the creation of additional documents, like the *European Security Strategy* (ESS) of 2003 and 2008. Both documents outline the increased importance of the security dimension and define the shared understanding of the member states. Both documents reinstate the need for the European Union to fulfil its duties as a global player and share the responsibility for global security.

Interestingly, the ESS understands security as precondition for social and economic developments and Europe's pursuit to become a global player. A similar argumentation can be found surrounding Europe's plans for space. Furthermore, the European Security Strategies succeeded in their aim to outline the importance of increased security cooperation between the member states and the general importance of security[5] for the development of the European Union as a global actor. Therefore, the broadening of the security paradigm through the EU was a prerequisite for any expansions in the European space policy. Accordingly, a coherent European space policy had to be located in this broadened security paradigm.[6] Sheehan concludes that

"[…] as the definition of 'security' expanded to embrace areas such as the economy and the environment, the EU found itself with legitimate security roles, making it far easier to move one stage further and enter the military security arena"[7].

The importance of space was emphasised through political initiatives like the 2000 *Lisbon Strategy* and its "[…] ambitious goal for the Union to become the most dynamic and competitive region in the world economy by 2010"[8].[9] Simultaneously, through the release of the 2000 *European Strategy for Space*, space became associated with this goal as it "[…] emphasized the highly strategic characteristics of space as a tool for sovereignty, scientific progress and economic development, to the benefit of European citizens"[10].

More recently, another step was taken within the 2011 *European Space Strategy* to manifest the long-term goal to become a global player into the field of space policy. The importance of space to assert Europe's role as a global player is outlined in the social, economic, and strategic dimension of the strategy. With regard to the economic dimension, the European Space Strategy states that space is "[…] a driving force for innovation and contributes to competitiveness, growth and job creation […]". It also points out the importance of the security dimension to achieve this goal within the strategic dimension: "[…] space serves to cement the EU's position as a major player on the international stage and contributes to the Union's economic and political independence". Therefore, the documents[11] above adequately outline the evolution of space towards a significant field of European politics and its contributions to Europe's long-term goal.

The evolution of the security dimension in space had its roots in the increased militarisation of space[12]. Since the beginning of the space age, nations like the Soviet Union and the United States have engaged in the military use of space, pursued military research and development, and even tested weapons for the use and deployment in space. Treaties like the 1967 *Outer Space Treaty* and the 1972 *Anti-Ballistic Missile (ABM) Treaty* attempted to halt this development. The 2002 American withdrawal from the ABM-Treaty had the potential to lead to a 'weaponized' space environment but in the end did not take place yet. Nevertheless, the militarisation of outer space continued unhindered and its importance increased significantly.

The initial idea behind the military use of space is to "[…] help the military break through the fog of war […]"[13]. This became, especially for the United States, of increasing importance since the 1991 Gulf War, which turned out to be know as the first space war. The war established the recognition that space assets (e.g. for reconnaissance,

navigation and intelligence purposes) can serve as force enhancers or multipliers[14]. Europe's awareness developed through the military operations in Kosovo and Afghanistan when "[…] space assets have almost proved to be prerequisites for both active and fully controlled military participation in allied coalitions"[15].

By the end of the 20th century, the military use of space became central to military operations of the major powers and improved the situational awareness of the battle groups and the management of battle space.[16] Contrary to most American space projects, which were immediately implemented into the military[17], were the EU flagship programs like Galileo and GMES purely civilian initiatives. The military availability of these programs did not begin until the mid-2000s. According to authors such as Alexander Kolovos, the militarisation of space was a logical move due to the essential support these assets provide to other capabilities. Besides the improvements for battle space management, space assets can also increase the situational awareness for decision-makers "…to minimize uncertainty and increase the chances for prudent political decision making"[18]. This is particular important regarding EU's role as a global player because it allows to verify agreements for additional means, e.g. through surveillance satellites. Moreover, the added intelligence enhances EU's negotiation ability with regard to security matters. Both the EU and ESA have recognized this importance and have increased their involvement in the field of Space Situational Awareness (SSA) respectively. The EU began to fund SSA-related activities, and ESA launched a preparatory program "[…] which might lead to a fully fledged SSA programme starting in 2012 […]"[19].

Frank Slijper points towards the ambiguity of Western states with regard to the militarisation of space. He argues that although EU member states support UN initiatives to prevent an arms race in space, they have become increasingly dependent on military satellite services. Furthermore, they introduce common space asset initiatives more frequently and support the drive to common European space policy.[20] This criticism seems, at first sight, understandable. However, a closer look at Slijper's argument reveals that his criticism slightly loses its adequacy because he does not clearly distinguish weaponization from militarisation of space[21]. UN initiatives like the*Prevention of an Arms Race in Outer Space* (PAROS) or Russian-Chinese working paper on a *Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects* (PPWT) deal with the actual use of weapons in space but do not include restrictions on the militarisation of space. Therefore, it is less ambiguous to support initiatives against the weaponization of space and, at the same time, become more interested in the militarisation of space and the use of military satellite services. Hence, a clear distinction between these two terms is necessary and important.

Developments Towards a Space Security Policy

When speaking about the European Space Policy, it is important to note that it is a fairly young project. Although national programs (e.g. in France, the United Kingdom and Germany) and attempts for a European space organization (e.g. European Space Research Organization (ELDO)) emerged early within the space age, one can hardly speak of the existence of a coherent European space policy. Rather, the European attempts to develop a space organization mainly served the cooperation of national programs for scientific purposes and, most importantly, promotion of collaboration among European states for solely peaceful purposes.[22]

The implementation of the strategic dimension found its culmination in the 2007 *European Space Policy* (ESP) as a result from negotiations about the above-mentioned and additional reports surrounding the importance of space.[23] While the ESP mainly acknowledged the economic benefits resulting from internal and external cooperation, it is important to note that it acknowledges to support the goals of the CFSP and "[…] improve coordination between defence and civilian space programmes, pursuing in particular the synergies in the domain of security […]". The ESP therefore considers "[…] the space sector as a strategic asset contributing to the independence, security and prosperity of Europe and its role in the world […]". Frank Slijper further argues that the ESP is "[…] considered to be the formal break with the past, when the EU and ESA (formally) always carefully avoided any clear involvement in the military dimensions of space"[24]. It can, therefore, be considered the culmination of Europe's strategic development towards a more security-, or as Slijper calls it military-oriented EU space policy.

Additionally, the 2011 *European Space Strategy* outlines that "[…] space policy is an instrument serving the Union's internal and external policies […]" and defines once again its importance for the three main areas of European policy,

namely the social, economic, and strategic dimension. In this regard, the Space Strategy sees the space infrastructure as an instrument that "[…] can serve the European Union's security and defense interests […]" and as an asset that "[…] requires protection".

In a 2012 Special Issue of the international space magazine *Space Policy* 'New Horizons for Europe – A European Studies Perspective on European Space Policy', Max Mutschler and Christophe Venet correctly point out that Europe is still searching for a coherent space security strategy, that the security dimension is still underdeveloped and that such a strategy has to be implemented primarily into the CSDP. Although this is indeed a valid claim, and Europe still needs to improve the coherence of its space strategy, one can concede that the *European Space Strategy* makes a step forward because it calls for intergovernmental cooperation with regard to space for security and defence and for "…the spirit of the Common Security and Defense Policy…". The space strategy has already made important steps towards closing the gap outlined by these two authors. Through the increased pooling of resources and the increased use of and cooperation in space initiatives, it is possible to achieve such a coherent space security strategy. Nevertheless, it will need time, particularly within the complex EU framework.

In hindsight, the establishment of the European Space Agency[25] can be considered being the "…turning point in the history of Europe in space"[26]. Since its establishment in 1975, the scope and importance of ESA increased, but remained mainly focused on scientific and industrial space initiatives. The 2004 *Framework Agreement* aligned ESA towards the EU and ultimately expanded its scope towards a more strategic dimension. Nevertheless, this agreement solidified ESA's position as a driving force behind the importance and use of space for the benefits of the European Union and its citizens.

ESA's importance in space activities increased due to the declining activities of space nations such as France and the increasing scope and budget of space programs in general.[27] Regarding ESA's space activities, especially Art. II (ESA Convention) deserves increased attention because it states that

"the purpose of the Agency shall be to provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space application, with a view to their being used for scientific purposes and for operational space application systems…".

Due to the alignment with the EU, this article became subject to discussions about the interpretation of the phrase 'for exclusively peaceful purposes'. ESA did not define the term 'peaceful' and it remained open to interpretation what the Convention actually meant by it. After the Framework Agreement, this term became more and more interpreted as non-offensive or non-aggressive and not anymore as non-military.[28] The re-interpretation of the ESA Convention ultimately enabled the agency to participate increasingly in military initiatives[29] and to play an even greater role in the development and shaping of Europe's space policy (i.e. the EC-ESA joint draft of the 2007 Space Policy).

Interestingly, the will to reinterpret the notion in this manner raised internally and was already pointed out in 2000 by then-ESA Director-General Rodota[30], who proposed that "…the agency should become the EU's space arm, but also that it should extend its remit into the military field"[31]. This is a remarkable statement and shows that ESA immediately realized the importance of expanding its scope to acquire expanded political leverage and potentially increased funding. Additionally, ESA realized the opportunity to become a key player in shaping the development of the European security dimension.

A critical development was the already mentioned broadening of the security paradigm, which allowed the EU to become a "…legitimate 'security' actor" (Sheehan, 2009: 179). This was not only a crucial step for EU's role as international player but also an important development for ESA "…to move effectively into policy areas previously denied…"[32] to both entities.

The expansion of the security dimension accompanies the subsequent inclusion of defence interests into European space activities. Iraklis Oikonomou deals with this development in an article in the above-mentioned special issue of *Space Policy*. He focuses on the developments of the European Defence Agency and its increased attempts "…to develop and consolidate EU military-related space capabilities"[33]. According to Oikonomou

"the rationale for the agency's role in [space] policy is two-fold: the need to develop military capabilities as part of the EU policy of power projection embodied in ESDP; and the need to strengthen the global competitiveness of the European arms and aerospace manufacturers"[34].

The EDA, as a recognized space actor in Europe, pursues its own Earth observation project (i.e. MUSIS), which supports its role, despite its limited success, as a cornerstone in realising Europe's military ambitions.[35] In this regard, the 2006 EDA *Long-Term Vision* deserves attention because it outlines the importance of knowledge as "…a vital resource in armed conflict"[36]. Especially the importance of space assets for the acquisition of such knowledge became acknowledged. It supports the claim of Alexander Kolovos about the uncertainty reduction for decision-makers. Therefore, the long-term vision stresses the need of military forces to possess intelligence, surveillance and reconnaissance capabilities.

It is important to note that the increased cooperation between the Commission, ESA and EDA ultimately gave EDA significant access to GMES and Galileo. This increased cooperation and pooling of resources ultimately led to the situation where "…the scope of civilian and quasi-civilian projects is expanded, thus multiplying the range of mission, applications and, eventually, end-users"[37]. Although EDA is not deeply involved in EU's mil-space policy *yet*, it "…feeds developments in other essential aspects of this policy, such as SSA and satellite communication"[38].

Another factor for the expansion of Europe's space strategy is the engagement of, as Iraklis Oiknomou calls it, the *politico-economic rationale*.[39] The importance of this rationale became clear in 2008 when the President of the European Commission, Jose Manuel Barroso, described the importance of space:

"…'Space both requires and generates new technologies, knowledge intensive services, new products and new form of cooperation. All this stimulates innovation and creates new jobs beyond the space industry'"[40].

This quote summarizes adequately how space became another crucial factor in Europe's industrial competitiveness. Consequently, GMES contributes not only to the security of Europe but also "…to produce the market itself for the relevant services, in an orchestrated manner with the users"[41].

Michael Sheehan presents a good explanation for the importance of industrial engagement by pointing out that a demand decrease for civilian satellites leads to an increase of the military market by exploiting dual-use technologies.[42] Security applications of GMES and Galileo would therefore be required to keep space projects attractive and fulfil Europe's goal for economic competitiveness and social prosperity. Thus, one can agree with Iraklis Oikonomou when stating that it is "needless to say that securing the space assets entails new long-term market and funding opportunities for the European space industry"[43]. Accordingly, it cannot be denied that the industry and, as will be outlined below, the military have their share in the security expansion of Europe's space policy.

Authors like Frank Slijper rightly criticized the way Europe expanded its space policy for its 'silent' extension, or its extension 'in disguise'. Throughout the 2000s, Europe developed a more security-oriented EU space policy, but this happened largely unnoticed by the public. Frank Slijper therefore raises a valid point when criticising the democratic deficit and calls for Europe to "…invest much more energy in addressing new policies to the general public"[44].

This development can best be exemplified with the GMES project, one of EU's flagship projects: starting in 1998, the acronym was known for 'Global Monitoring for Environment Security'. Within a year, the security part became independent and the acronym changed towards 'Global Monitoring for Environment and Security'. Despite the assertion of the European Commission that "'…the 'S' in GMES covers the security and protection of citizens related to environmental threat'"[45], authors, like Iraklis Oikonomou and Frank Slijper, contest the purely civilian character of GMES, and argue that such projects (another example could be Galileo) have a significant military component[46], despite the official rhetoric of European officials.[47]

The above-mentioned *European Space Strategy* supports their statement by calling for the enhancement of the 'S'. The Strategy calls for the identification of dual-use observation resources with regard to GMES "…for example for the

systematic surveillance of large geographical areas or the tactical surveillance of smaller areas". Especially in comparison with the increased list of threats outlined in the 2008 Report on the ESS, such an enhancement of the security capabilities can contribute to providing surveillance capabilities for the observation of the potential proliferation of WMDs. With regard to, for example, the on-going negotiations with Iran about its nuclear program, Europe could rely on its own resources for the verification and observation of agreements and accords, and could provide the European delegation with a higher level of independence for verification purposes.

The Galileo project is another supportive example for the possible dual-use capabilities of space technology. It was developed to secure the availability of a navigation system in case of denied access to the American GPS system in times of crisis.[48] Although starting out as "…the first satellite navigation system in the world designed for civilian use"[49], it became more and more connected to military use. By equipping the system with the Public Regulated Services (PRS), to provide "…encrypted signals to be used by military and security users"[50], it became an increasingly interesting tool for military users, law-enforcement agencies and emergency-response services.

This development consequently fits into the policy initiatives and goals of the European Union. Nevertheless, it cannot be ignored that the democratic deficit and the lack of public announcements cast a cloud on such developments. Owing to the possibility for dual-use capabilities, that projects like GMES and Galileo possess, the silent expansion of space understandably led to criticism and concerns of the (interested) public.

Conclusion

This essay outlined the manner in which Europe expanded its space policy towards the security dimension and showed that it was a strategic development with respect to the long-term goal of becoming an important global player.

Throughout the analysis, it became clear that space can and should play an important role and is ultimately beneficial by providing support to decision-makers and helping them to overcome their uncertainty about other states' intentions and capacities; or as Kenneth Booth and Nicholas Wheeler call it, their *dilemma of interpretation*.[51] The importance of information for this process is essential and it is unquestionable that space assets can help resolving these needs.

Besides Europe's internal will to increase its role in the international system, it can also be acknowledged that space assets are of incredible value for military operations, e.g. under the umbrella NATO. Thus, Europe has achieved improvements the strategic decision to introduce the security dimension into its space policy was a necessary and ultimately, as Howorth pointed out, logical step for Europe in general and for its space policy in particular.

Nicolas Peter's claim that "…the EU's increasing involvement in space affairs is leading to the emergence of a 'EU space diplomacy'"[52] is therefore a valid and supportable interpretation of the space developments. Space ultimately becomes another instrument in the diplomatic toolbox and increases the abilities of European decision-makers in the international system.

Despite this, one should not ignore criticisms as, for example, outlined by Frank Slijper. Especially the above-mentioned statement of an industry expert that "…the sensitive word 'military' was carefully replaced by 'security' to smoothen acceptance…"[53] and its manifestation in the EU flagship projects Galileo and GMES, can be considered worrisome. The EU did not benefit from changing its space policy through these methods, because it has made itself vulnerable to criticism of democratic deficit. In this regard, the EU should react to Sljiper's argument by putting more efforts in addressing the public in an adequate manner, when introducing new policies. This claim is also emphasized by supporters of the EU's expansion of security policy, such as Xavier Pasco.

Nevertheless, the security expansion was necessary due to political integration and, additionally, the goal of Europe to acquire autonomy from non-European services and technology suppliers.

This essay therefore agrees with Xavier Pasco's claim that

"…military space thinking doesn't have to be kept a prisoner of the still-existing separation between space and non-space systems but must rather become a transparent element of an all-inclusive European security architecture that will be both civilian-military and space and non-space based"[54].

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[1] Oikonomou, I. 'The European Defense Agency and EU military space policy: Whose space odyssey?',*Space Policy*, (Vol. 28, 2012), pp. 109.

[2] Howorth, J. *Security and Defence in the European Union* (New York: Palgrave MacMillan, 2007), pp. 2.

[3] Slijper, F. *From Venus to Mars: The European Union's steps towards the militarisation of space* (Amsterdam: TNI/Campagne tegen Wapenhandel, 2008), pp. 24.

[4] Howorth, J. *Security and Defence in the European Union*, pp. 36.

[5] It has to be acknowledge, that, originally, the 'S' in CFSP referred mainly to soft security (ethnic conflict, post-violence stabilization, etc.) (Merlingen and Ostrauskaite, 2008: 2). The aim of the ESS was to successfully increase the meaning of the 'S' and included bigger security issues like the proliferation of WMDs and terrorism, into the scope of the European security thinking.

[6] Sheehan, M. *The International Politics of Space* (London/New York: Routledge, 2007), pp. 88.

[7] Ibid., pp. 89.

[8] Peter, N. 'The EU's emergent space diplomacy', *Space Policy*, (Vol.23, 2007), pp. 98.

[9] This goal became incorporated into the ESS and outlined in the EC report *Europe 2020*, too.

[10] Peter, N. 'The EU's emergent space diplomacy', pp. 100.

[11] Additional documents about the increased space importance are i.e. the 2003 EU report*Space and Security Policy in Europe* and the 2003 White & Green Paper.

[12] A lengthy analysis of the weaponization/militarisation debate can be found in Johnson-Freese, Joan. 2007 *Space as a Strategic Asset* (New York: Columbia University Press).

[13] Johnson-Freese, J. *Space as a Strategic Asset* (New York: Columbia University Press, 2007), pp. 90.

[14] Ibid.pp. 91.

[15] Pasco, X. 'Toward a European military space architecture', In: Coletta, Damon and Pilch, Frances T. (eds.) *Space and Defence Policy* (New York: Routledge, 2009), pp. 293.

[16] Sheehan, M. *The International Politics of Space,* pp. 92.

[17] Systems like GPS were developed under the auspices of the military and the majority of space planning takes place through military personnel (e.g. USSTRATCOM its responsibility for the US space doctrine) (see Sheehan, M. *The International Politics of Space,* 116-7).

[18] Kolovos, A. 'Why Europe needs space as part of its security and defence policy', *Space Policy*, (Vol. 18, 2002); pp. 259.

[19] Mutschler, M. and Venet, Chr. 'The European Union as an emerging actor in space security?', *Space Policy*, (Vol. 28, 2012), pp. 121.

[20] Slijper, F. *From Venus to Mars: The European Union's steps towards the militarisation of space*, pp. 18.

[21] Militarisation of space can be defined as "…the use of assets based in space to enhance the military effectiveness of conventional forces or the use of space assets for military purposes (see Mowthorpe, M.*The Militarization and Weaponization of Space* (Oxford: Lexington Books, 2004), pp. 3). Weaponization, otherwise, can be defined as the "…use of a space object that was designed or modified specifically for the purpose of inflicting permanent physical damage on any other object through the projection of mass or energy" (see Wolter, D.*Common Security in Outer Space and International Law* (Geneva: United Nations Institute for Disarmament Research, 2006, pp. 31).

[22] Sheehan, M. *The International Politics of Space*, pp. 81.

[23] Slijper, F. *From Venus to Mars: The European Union's steps towards the militarisation of space*, pp. 18.

[24] Ibid., pp. 23.

[25] It is important to note that ESA remained outside of the framework of the EC/EU. It lasted until 2004 that the EU and ESA signed a Framework Agreement for a closer, efficient and mutually beneficial cooperation and to develop a coherent and progressive basis of an overall European Space Policy (see Peter, N.'The EU's emergent space diplomacy', pp.102).

[26] Sheehan, M. *The International Politics of Space*, pp. 84.

[27] Nardon, L. 'Developed Space Programmes', In: Sadeh, Eligar (ed.) *The Politics of Space: A Survey*, 1st edition (London/New York: Routledge, 2011), pp. 68.

[28] i.e. Hoerber, Th. 'New horizons for Europe – A European Studies perspective on European space policy',*Space Policy*, (Vol. 28, 2012); Slijper, F. *From Venus to Mars: The European Union's steps towards the militarisation of space*.

[29] Slijper, F. *From Venus to Mars: The European Union's steps towards the militarisation of space*.

[30] ESA Director-General, Jean-Jacques Dordain, embraced the idea of an increased militarisation of ESA when he highlights that „…perhaps the most important element of the European Space Policy's has been the strong expression of all partners that space is a strategic asset for Europe" (see Slijper, F.*From Venus to Mars: The European Union's steps towards the militarisation of space*, pp. 35-6).

[31] Sheehan, M. 'Profaning the path to the sacred. The militarisation of the European space programme', In: Bormann, Natalie and Sheehan, Michael (eds.) *Securing Outer Space* (London/New York: Routledge, 2009), pp. 177.

[32] Ibid., pp. 179.

[33] Oikonomou, I. 'The European Defense Agency and EU military space policy: Whose space odyssey?', pp. 102.

[34] Ibid., pp. 106.

[35] Slijper, F. 'The EU should freeze its military ambitions in space', *Space Policy*, (Vol. 25, 2009), pp. 70.

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[37] Oikonomou, I. 'The European Defense Agency and EU military space policy: Whose space odyssey?', pp. 106.

[38] Ibid., pp. 106.

[39] Oikonomou, I. *GMES and the making of EU military space policy: Beyond the rhetoric* , Paper presented at the 40th UACES Annual Conference, Brugge, September 2010, pp. 1.

[40] quoted in Ibid, pp. 10.

[41] Ibid., pp. 11.

[42] Sheehan, M. 'Profaning the path to the sacred. The militarisation of the European space programme', pp. 182.

[43] Oikonomou, I. *GMES and the making of EU military space policy: Beyond the rhetoric*, pp. 9.

[44] Slijper, F. 'The EU should freeze its military ambitions in space', pp. 73.

[45] quoted in Oikonomou, I. *GMES and the making of EU military space policy: Beyond the rhetoric*, pp. 2 .

[46] This assumption can be supported by a statement of ESA official Stephen Briggs: "….the relevance of GMES is based upon 'increased use of military assets for complex situation responses' and an 'increased global role of Europe and strong public support for CFSP'" (quoted in Slijper, F.*From Venus to Mars: The European Union's steps towards the militarisation of space*, pp. 38).

[47] Oikonomou, I. *GMES and the making of EU military space policy: Beyond the rhetoric*, Slijper, F. 2008 *From Venus to Mars: The European Union's steps towards the militarisation of space*.

[48] Johnson-Freese, J. *Space as a Strategic Asset*, pp. 190.

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[50] Slijper, F. 'The EU should freeze its military ambitions in space', pp. 72.

[51] Booth, K. and Wheeler, N. *The Security Dilemma: Fear, Cooperation and Trust in World Politics* (New York: Palgrave MacMillan, 2008), pp. 4.

[52] Howorth, J. *Security and Defence in the European Union*, pp. 97.

[53] Slijper, F. *From Venus to Mars: The European Union's steps towards the militarisation of space*, pp. 24.

[54] Pasco, X. 'Toward a European military space architecture', pp. 308.

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