

The European Space Policy: assessing its contribution to the EU's  
Common Security and Defence Policy through the lenses of  
neofunctionalism

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University of Leiden

Bruno Formicola  
S2218496

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# Table of Contents

<i>Introduction</i>	3
1. Hypotheses, Theory and Research Question	4
2. Research design and Methodology	4
3. Literature Review	5
<i>I. Overview of the European engagement in space: from the post-war period to the current days</i>	7
1. Europe's first commitments to space cooperation	7
2. The EU steps into the space arena	9
3. The Galileo and Copernicus flagship programmes	10
4. Institutional setup of the European space governance: the interplay between ESA and the EU	13
5. The models of cooperation: which alternatives for the space governance?	16
<i>II. Neofunctionalism and the European Space Policy</i>	17
1. Introduction to the neofunctionalist theory	17
2. Neofunctionalism in the context of the ESP	19
<i>III. The consolidation of space assets into the security and defence area</i>	21
1. The use of satellites in CSDP ground missions	21
2. The role of space assets and the aerospace industry in the evolution of the European Defence Agency (EDA)	22
3. Dual-use technologies	25
4. The European Defence Fund (EDF)	26
5. Functional and political spillovers: an appraisal	28
<i>Conclusion</i>	29
<i>Bibliography</i>	30

## Introduction

Today, European institutions are unanimous in their recognition of space as a strategic field enabling the European Union (hereinafter, EU) to maintain its position of global player.

Likely prompted by the Transatlantic rift and the emergence of new space-faring nations, the potential lying in space is again under the spotlight: after a 8-year pause, a new EU-ESA Space Council was held on May 28 with the theme “Space as enabler.”<sup>1</sup>

The numbers concerning the budget allocations for space are also self-explanatory: the EU destined €12,6 billion to space activities for the 2014-2020 Multiannual Financial Framework (MFF);<sup>2</sup> despite worries over Brexit and the consequent downsizing of the union’s overall financial availability, the proposed budget for the 2021-2027 MFF period would increase the figures up to €16 billion.<sup>3</sup>

Galileo and Copernicus are the two flagship programmes which are currently being developed in partnership by the EU and the European Space Agency (ESA). While the ongoing projects have been described as having mainly economic benefits, their importance with respect to security and defence has been highlighted in the 2016 Space Strategy for Europe laid out by the European Commission (hereinafter, the Commission): “Space services can strengthen the EU’s and Member States’ capacity to tackle growing security challenges and improve the monitoring and control of flows which have security implications. Most space technologies, infrastructure and services can serve both civilian and defence objectives.”<sup>4</sup>

At the state level, the French President Emmanuel Macron has recently announced the creation of a new space command, which will lead to the rebranding of the air force as the Air and Space Force; the move follows the decision by President Donald Trump to establish a US space force that will soon constitute the sixth branch of the American military.<sup>5 6</sup> In the meantime, India and China have entered the space race with ambitious projects.

These developments paint a clear picture: the space dimension is assuming a new relevance among the world’s chancelleries and military agencies. The peculiar characteristics of the EU, as a political construction, make the effects of space policy on the Common Security and Defence Policy (CSDP) an interesting object of study.

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<sup>1</sup> Romania2019.eu - 9<sup>th</sup> Space Council - Presidencies Conclusions.

<sup>2</sup> Briefing EU Legislation in Progress 2021-2027 MFF - EU Space Programme (2018), p. 1.

<sup>3</sup> *Ibid.* p. 3.

<sup>4</sup> European Commission, “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Space Strategy for Europe”, COM(2016) 705 (2016).

<sup>5</sup> Discours aux armées à l’Hôtel de Brienne by Emmanuel Macron - Paris, July 13<sup>th</sup> 2019.

<sup>6</sup> whitehouse.gov, Text of Policy Directive-4: Establishment of the United States Space Force – February 19<sup>th</sup> 2019.

## 1. Hypotheses, Theory and Research Question

The recent setup of a Directorate General devoted to Defence Industry and Space crowns a long chain of events that partially brought space and defence into the EU's remit; it also confirms the main premises of the thesis, which contend that the space and defence domains are strictly intertwined and are key sectors to Europe's independence. However, to assess the actual role of space policy in Europe's supranational military operations, it is essential to understand how these sectors relate to each other. The theory of neofunctionalism provides an optimal framework for this purpose, as it primarily focuses on the reasons behind the integration of different yet interlinked sectors.

The Research Question emerging from this realization comes as follows: "to what extent do the European Space Policy and its civilian flagship programmes Galileo and Copernicus contribute to the implementation of the CSDP in its ground operations?". Despite the commercial underpinning of these projects, precise and encrypted positioning data together with detailed imagery of the Earth's surface could provide Europe's military commands and intelligence services with precious information to accomplish their tasks on the ground.

Multiple actors are increasingly aware of the importance of these projects in assisting the European public actors involved in security and defence. Therefore, inquiring into the past and present role of European institutions in framing space policy as a crucial aspect of the military dimension is a compelling effort.

The inception of a "European Space Policy" (ESP) can be dated back to 2003, when the Commission and ESA jointly agreed on the development of a common space policy. The partnership would be further expanded in 2004 with a framework agreement.<sup>7</sup> The ESP consists of three levels of governance: the national, intergovernmental (ESA) and supranational (EU).<sup>8</sup> For the purpose of this research, the focus will be on the latter two.

This thesis will therefore employ the neo-functional theory to understand whether spillovers from and towards the space sector have taken place and, in case of an affirmative answer, what have been the effects on the CSDP.

## 2. Research design and Methodology

In this initial part, the thesis will provide a review of the existing literature. Then, background information regarding Europe's engagement in space, its flagship programmes and the current institutional architecture of the European space will be provided. In chapter two the theory of neofunctionalism will be discussed. The third and final chapter will inquire into the relationship

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<sup>7</sup> V. Reillon, European Parliamentary Research Service - "European Space Policy: Historical perspective, specific aspects and key challenges" (2017), p. 1.

<sup>8</sup> E. Sigalas, "The Rise of the European Union as a Space Power: A Historical Institutional Explanation" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 166.

between space policy and the CSDP through the lenses of neofunctionalism and will analyse the most recent developments in the two areas.

The underlying methodology will consist of both discourse and content analysis, with an eye on the official documents issued by the institutions such as communications, directives and joint statements; the thesis will also draw from previous literature and the information provided by the respondents to personally conducted interviews involving high level functionaries. By studying the content of official reports, briefings and legislative proposals it will be possible to observe how space policy has been framed throughout the years and find an exhaustive answer to the research question.

### 3. Literature Review

In the last twenty years, with space assuming a greater significance among the EU's policymakers, more European Studies scholars have immersed themselves into the study of space policy in the wider context of European integration. While literature on the bridge linking the ESP and the CSDP is rather scarce and fragmented, the publications available offer useful starting points to conduct the intended analysis.

The 2003 book *Policy Logics and Institutions of European Space Collaboration* by Kazuto Suzuki pioneered the study of the European politics of space.<sup>9</sup> The volume is particularly interesting to the thesis as it introduces the concept of "policy logics" in space; they constitute the pre-existing beliefs that shape the behaviours of European states in international space cooperation. The concept is reformulated by several authors in the collection of essays *European Space Policy: European integration and the final frontier*<sup>10</sup> with the notion of "frames".<sup>11</sup>

The European space governance's structure has also been extensively examined from a purely legal and institutional perspective. In the volume *"Project 2001 Plus" - Global and European Challenges for Air and Space Law at the Edge of the 21st Century* several options of cooperation and integration involving ESA and EU are discussed, in the effort to conceptualize a more coherent and efficient framework to advance the upcoming European space policy.<sup>12</sup>

A new strand of literature started to emerge after the Lisbon Treaty conferred the EU a shared competence in the field of space. With such a reorganization of the governance structure, it became academically appetible for scholars of European Studies to re-focus on the possible alternative institutional setups<sup>13</sup> and apply the theories of European integration to space policy. The publication in 2012 of a special issue of the journal *Space Policy* titled *New Horizons for*

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<sup>9</sup> K. Suzuki, "Policy Logics and Institutions of European Space Collaboration" (2003), p. 6.

<sup>10</sup> T. Hoerber and P. Stephenson (eds.), "European Space Policy –European integration and the final frontier" (2015).

<sup>11</sup> U. Morth, "Competing frames in the European Commission – the case of the defence industry and equipment issue" (2000) in *Journal of European Public Policy*, 173-189, at 175.

<sup>12</sup> S. Hobe et al., "'Project 2001 Plus" - Global and European Challenges for Air and Space Law at the Edge of the 21st Century." (2006).

<sup>13</sup> F. Mazurelle et al., "The Evolution of European Space Governance: Policy, Legal and Institutional Implications" (2009).

*Europe: A European Studies Perspective on European Space Policy*<sup>14</sup> inaugurated the renewed interest in the area. The issue attempted to link space policy to the broader field of European Studies, with the authors investigating the impact of the EU institutions and agencies on the ESP throughout the integration process.

The themes are further elaborated in a recent volume which provides interesting interpretations of space policy by European Studies scholars. In *Theorizing European Space Policy* edited by Thomas Hoerber and Emmanuel Sigalas, the ESP is looked at from different angles, with the explicit aim to fill the theory gap and to provide a theoretical underpinning to space policy.<sup>15</sup> The authors each focus on specific theories such as framing and discourse theory, liberal intergovernmentalism or social constructivism. In his essay, Sigalas examines the evolution of space policy by resorting to Suzuki's studies and by employing the key concepts of historical institutionalism, such as path dependence, critical junctures and unintended consequences.<sup>16</sup>

However, worthy of particular notice for the purpose of this study is the chapter addressing neofunctionalism. Athanasopoulos argues that neofunctionalism provides a coherent narrative to explain the evolution of space policy, which went from being a purely national competence in the post-war period to be a shared competence of the EU nowadays. However, beside its validity as theory of integration, neofunctionalism also displays prescriptive and ideological features that the author considers harmful to the European project, as they could lead to an excessive technocratization of the governance structure; neofunctionalism operates as a self-fulfilling prophecy whereby the inherent assumptions of the theory are used by the Commission to depoliticize space policy and increase its influence.<sup>17</sup>

As will be discussed in the next chapter, the Commission recognized the importance of space assets for the security and defence domain in several communications. Oikonomou touches the issue of this relationship in his 2012 article *The European Defence Agency and EU military space policy* in which the role of the defence agency in the ESP is laid out. However, despite the increasing interrelatedness between EDA and the ESP, no further studies on this specific relation have been conducted to this day.

Indeed, the link between ESP and defence in general has not been extensively dealt with by the literature until a few years ago, when the European Space Policy Institute (ESPI) published the collection of essays *European Autonomy in Space*<sup>18</sup> edited by Cenan Al-Ekabi. The book represents a novelty, as it tackles the question of European independence from the bigger space faring powers in several areas, from science to foreign policy and security. In particular, the book provides a detailed account of the Galileo programme and the logics behind its development.

The ESP has therefore been the subject of several articles and books, especially over the last few

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<sup>14</sup> T. Hoerber, "New horizons for Europe –A European Studies perspective on European space policy" (2012) in 28 *Space Policy*, pp. 77–80.

<sup>15</sup> T. C. Hoerber, "A theoretical perspective on European Space Policy" in T. C. Hoerber and E. Sigalas (eds.), *"Theorizing European Space Policy"* (2016), p. 15.

<sup>16</sup> E. Sigalas, "The Rise of the European Union as a Space Power: A Historical Institutional Explanation" in T. C. Hoerber and E. Sigalas (eds.), *"Theorizing European Space Policy"* (2016), pp. 159-175.

<sup>17</sup> H. K. Athanasopoulos, "Spillover to Space: A Critical Investigation Into Neofunctionalist EU Space Policy" in T. C. Hoerber and E. Sigalas (eds.), *"Theorizing European Space Policy"* (2016), p. 25.

<sup>18</sup> C. Al-Ekabi, "European Autonomy in Space", European Space Policy Institute (2015).

years. The literature analysed displays a clear divide: the pre-Lisbon Treaty literature on space policy has mainly dealt with Europe's independence and involvement in space throughout history and debated over the institutional relationship between the EU and ESA. Alongside the different institutional formulas proposed, most of the authors maintained that the importance of space programmes for Europe would eventually increase and that certain projects (i.e Galileo) would require extensive collaboration between countries to be accomplished. Those conclusions are today substantiated by the unfolding of events, as the EU's role and spending in the sector increase. At present, the more explicit participation of the EU in the definition of space programmes and policy that started to emerge over the last years is changing the focus of researchers; indeed, the post-Lisbon Treaty strand of literature embedded space policy into European studies, and consequently recognized its role in European integration, thus creating the opportunity for scholars of European integration to apply the theories of European integration to this field as well.

Athanasopoulos provided the first interpretation of the development of the ESP by using the theory of neofunctionalism, while other authors focused on the relation between space policy and security. There are no studies, however, which apply the theoretical framework of neofunctionalism in order to unfold the links existing between space policy and the CSDP. Additionally, Copernicus is often shadowed by Galileo despite its relevance in the overall space policy. This thesis aims at filling, at least in part, these gaps.

## I. Overview of the European engagement in space: from the post-war period to the current days

This section of the thesis will provide the reader with key background information on the space activities carried out by European actors in the last sixty years. First, I will dig into the early stages of intergovernmental cooperation in space. In this phase, the projects were mostly realized out of the framework of the European Union; secondly, I will look into the involvement of the EU, which can be dated back to the 1970s. Finally, I will scrutinize the origins and the subsequent evolution of the ongoing programmes.

### 1. Europe's first commitments to space cooperation

The growing interest towards space across Western Europe developed amidst the global tensions generated by the Cold War. At the time, the USSR and the USA rivalled each other setting ground-breaking records beyond the atmosphere, inaugurating the race respectively with the first satellite sent to space and concluding with the first manned mission to the Moon. Compared to these two space powers, European countries suffered from financial restraints and unexploited economies of scale. Taken individually, France and the UK were the most active countries in the field and the most technologically advanced; they unsurprisingly took the lead in laying the first grounds of European cooperation in space.<sup>19</sup>

Two logics can be identified behind the early stages of the joint planning: the Gaullist pretence to

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<sup>19</sup> V. Reillon, European Parliamentary Research Service - "European Space Policy: Historical perspective, specific aspects and key challenges" (2017), p. 3.

rely on autonomous capabilities and the UK's focus on economy and budgetary concerns.<sup>20</sup> In March 1961, the European Preparatory Commission for Space Research emerged following the efforts of European scientists and the determination of France to develop independent facilities; the setup of the Commission resulted in the establishment of the European Space Research Organization (ESRO) in 1964, the first ever European intergovernmental organization dedicated to space.

The previous decade had been marked by unsuccessful attempts to assemble a common response in space. The UK had committed itself to the development of a ballistic missile named *Blue Streak*, but it deemed it too costly and ultimately cancelled it for this very reason. The cancellation of the programme prompted the UK to seek international financial support that was initially found across the Channel, in Belgium, Germany, Italy and The Netherlands. Pooling resources was indeed a necessity if Europe was to develop its own capabilities autonomously; the participating countries were aware of that reality. Together with the birth of ESRO, the six set up the European Launcher Development Organisation (ELDO) in 1964, but the lukewarm commitment of some members and the disappointing performance of the first three-stage rocket Europa led to its demise in 1973.<sup>21</sup>

While European industries managed to develop autonomously all the components of communications satellites, they did not possess the necessary technology to carry the equipment into space. A striking example was constituted by the Symphonie satellites developed through a Franco-German collaboration, as they had to rely on US and Soviet launchers to be deployed.<sup>22</sup> In the context of a geopolitical encroachment between two powers, this was hardly acceptable for the French government.

Subsequently to the failure of the *Europa* launching vehicle, a European Space Conference was held between 1972 and 1973; on that occasion two important events took place: a new launcher later named *Ariane* was presented<sup>23</sup> and the merger of ESRO and what remained of ELDO was agreed among the participants. This led to the establishment of the European Space Agency (ESA) in 1975.

The structure of ESA reflected the preferences of France, at the time championing a Europe *à la carte*,<sup>24</sup> and the British sensibility for budgetary constraints. Aware of its advantaged position as military and civil middle power, France was at the same time seeking to reshape the EU in a way that would suit its predilection for intergovernmentalism. ESA was therefore grounded on the principle of *juste retour*, whereby member states would receive back roughly the same amount of financial contributions in the form of industrial contracts.<sup>25</sup> For instance, the British government agreed to fund the *Ariane* programme, a product originating from the French space industry, only when France promised economic backing for the UK's Marot satellite.<sup>26</sup>

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<sup>20</sup> T. C. Hoerber, "Chaos or Consolidation? Post-war space policy in Europe" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 15.

<sup>21</sup> *Ibid.*, p. 22.

<sup>22</sup> *Ibid.*, p. 20.

<sup>23</sup> S. E. Zabusky, "Launching Europe: An Ethnography of European Cooperation in Space Science" (1995), p. 227.

<sup>24</sup> T. C. Hoerber, "Chaos or Consolidation? Post-war space policy in Europe" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 20.

<sup>25</sup> R. Hansen and J. Wouters, "Towards an EU industrial policy for the space sector" in T. Hoerber and P. Stephenson (eds.), "European Space Policy –European integration and the final frontier" (2015), p. 229.

<sup>26</sup> T. C. Hoerber, "The Development of European Space Policy through the lenses of Discourse Theory" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 69.



Ultimately, historical evidence shows that early cooperation in space was grounded on a solid intergovernmental basis that mostly promoted national interests.<sup>27</sup> Member states were jealous of their sovereignty to the point that the pledged commitments to such cooperative projects were often uncertain and unreliable; Hoerber appeals to discourse theory and specifically to the concept of antagonism: while the intention to develop an independent access to space at the European level was driven by antagonism towards the US, the same concept provides an explanation for the reticence to develop a fully supranational European Space Policy, as the countries were unwilling to give up their sovereignty.<sup>28</sup>

## 2. The EU steps into the space arena

The involvement of the EU in space can be dated back to the late 1970s, when the European Parliament issued the first ever resolution on “Community participation in space research”. The MEPs called for a boost in cooperation at the supranational level as Europe could not “depend on outside sources to meet its own needs”.<sup>29</sup> Telecommunications, earth observation and scientific research were identified as the key sectors that would most benefit from the deepening of the Communities’ attention to space. The existing intergovernmental framework embodied by ESA and the Joint Research Centre (JCR) of the European Communities represented crucial starting assets.<sup>30</sup> Indeed, besides focusing on nuclear energy, the JCR was in a minor way also committed to space research.<sup>31</sup> It must be noted that no reference to the military dimension of space was made in the first resolution.

In 1981 the European Parliament issued a resolution which called on the Commission to undertake feasibility studies for the realization of a European space shuttle that could grant an independent access to space.<sup>32</sup> However, ESA remained the leading actor throughout the 80’s; in 1985 it published a resolution on the long-term European space plan in order to steer the European Space Programme.<sup>33</sup>

The renewed interest within the EU came about following the ratification of the Single European Act (SEA, 1987), which granted the EU legal competences in research. The Parliament adopted a new resolution in 1987 stressing the need for the Community to have an active role in space and a “powerful and coherent long-term policy on space applications”.<sup>34</sup> On the part of the Commission, the first relevant steps were taken in 1988 when the Vice-President of the Commission Karl-Heinz Narjes met with representatives from major aerospace companies. The meeting was followed by the publication of a report by the Commission acknowledging that the Community “is still neither active enough nor sufficiently well-organized when it comes to exploiting the applications of space

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<sup>27</sup> *Ibid.*, p. 73.

<sup>28</sup> *Ibid.*, p. 76.

<sup>29</sup> European Parliament, “Resolution on Community participation in space research”, OJ C/42 (1979).

<sup>30</sup> E. Sigalas, “The Rise of the European Union as a Space Power: A Historical Institutional Explanation” in T. C. Hoerber and E. Sigalas (eds.), “Theorizing European Space Policy” (2016), p. 167.

<sup>31</sup> *Ibid.*

<sup>32</sup> European Parliament, “Resolution on European space policy”, OJ C/102 (1981), pp. 102-104.

<sup>33</sup> ESA Council, “Resolution on the long-term European space plan” (1985).

<sup>34</sup> European Parliament, “Resolution on European space policy”, OJ C/78 (1987).

technology".<sup>35</sup> The proposed strategy suggested to enhance space capabilities so that other policy areas would reap benefits; indeed, the paper reads that Europe "is still without a cogent overall policy which incorporates technological, industrial, commercial, social and even defence aspects".<sup>36</sup>

In 1991 a new resolution by the Parliament called for the Commission to implement a ESP by "bearing in mind the economic and political dimension of the community."<sup>37</sup>

Later that year, the Commission stepped up its involvement in the space sector; it entrusted a panel of experts, headed by the ESA Director General Roy Gibson, with the task to identify the policy dimensions where the Commission could take relevant action.<sup>38</sup> Along with other dimensions, the panel's publication named "Crossroads in Space" mentioned security as a relevant aspect of space policy. In particular, the authors stressed that "any review of space activities which omits the defence aspects cannot provide a fair picture of the situation." Moreover, they identified in the activities carried out within the framework of the Western European Union (WEU) the potential to "encourage further European defence use of space, leading to a reduced dependence on the US space defence systems and perhaps even to the development of an independent navigation system," thus foreseeing the setup of the Galileo programme.<sup>39</sup>

Encouraged by the panel's report, the Commission with the support of the Council set up a Space Advisory Group (SAG) which served as *ad hoc* body;<sup>40</sup> moreover, it proposed a space programme named "Vegetation" to monitor land use. Space policy became then intertwined with the European agricultural policy. In 1995 the Parliament took an unprecedented step, in the words of Suzuki, when it organized a European Space Forum attended by representatives from the Commission, ESA and the space sector industries to design an all-inclusive strategy.<sup>41</sup>

In 1996 for the first time the Commission included the defence dimension of space among the priorities of a new communication; the text maintained that "space technology is of central and growing importance for many types of military missions". The Commission also acknowledged that while in the past military needs drove the development of space technology that would then find use in the civilian market, a new reverse trend where civilian space technologies also find application in the military sector was taking place.<sup>42</sup> The development of earth observation and satellite navigation capabilities became therefore the new focus of the EU, which sought closer cooperation with ESA and the single member states' national agencies.<sup>43</sup>

As for Europe's launching capabilities, ESA continued to rely on the Ariane rockets to carry out its missions and still does today, with Ariane 6 being the latest addition to the family of European launchers.

### 3. The Galileo and Copernicus flagship programmes

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<sup>35</sup> Commission of the European Communities, "Communication from the Commission on the Community and space: a coherent approach", COM(88) 417 final (1988) p. 2.

<sup>36</sup> K. Suzuki, "Policy Logics and Institutions of European Space Collaboration" (2003), p. 186.

<sup>37</sup> European Parliament, "Resolution on European space policy", OJ C/305 (1991), pp. 26-27.

<sup>38</sup> *Ibid.*, p. 187.

<sup>39</sup> Commission of the European Communities, "The European Community crossroads in space" (1991).

<sup>40</sup> Council of the European Union, "The European Community and Space - Council conclusions" (1993).

<sup>41</sup> K. Suzuki, "Policy Logics and Institutions of European Space Collaboration" (2003), p. 187.

<sup>42</sup> European Commission, Communication from the Commission to the Council and European Parliament, "The European Union and space: fostering applications, markets and industrial competitiveness", COM(96)617 (1996).

<sup>43</sup> *Ibid.*

## EGNOS/Galileo

The idea of an independent satellite navigation system emerged primarily for autonomy-based reasons. Concerns were raised among Europe's statesmen when the US Department of Defense suspended the civilian service of the Global Positioning System (GPS) during the Kosovo War, causing disruptions to the air traffic above the Adriatic Sea.<sup>44 45</sup> Indeed, European public authorities, companies and citizens were relying on a navigation system which was under the exclusive control of a foreign power. While the US and the EU entertained peaceful relations, also considering the NATO membership of most member states, the Commission wanted to ensure that civilian services were not disrupted arbitrarily; one of the objectives of the Commission was to convince the US administration to discard the GPS's Selected Availability, which allowed the government to provide a more precise service for military operations compared to less accurate positioning data employed for civilian uses.<sup>46</sup>

Nevertheless, discussions over an independent navigation system had already taken place in 1994. The Council, the Commission and ESA had contemplated a two-step approach<sup>47</sup> whereby the Union would first develop a network of satellites in order to enhance the signal provided by the US made GPS, and then progress to build fully independent capabilities. This led to the setup of the European Geostationary Navigation Overlay System (EGNOS), a satellite-based augmentation system which laid the ground for the Galileo programme.<sup>48</sup>

The development of Galileo had also strong economic underpinnings that spanned from the traffic management of the Trans-European Transport Network and maritime routes to agricultural policy and farm machineries.<sup>49</sup> For instance, according to the Commission "it will be possible using Galileo instantly to trace goods carried on the railway network, facilitating the development of a just-in-time policy".<sup>50</sup> In 2001 the consultancy firm PricewaterhouseCoopers argued that "the largest and the most robust benefits are generated from the aviation and maritime industries"<sup>51</sup>.

Therefore, two main logics supported the setup of a new navigation system: solving the issue of the reliance on the US (autonomy) and entering the market of satellite navigation (commercial)<sup>52</sup>. The process surrounding Galileo was marked by tensions both internally and externally; the opposition of the United Kingdom and the Netherlands to full public financing of the programme pushed the Commission to envision a Public-Private Partnership (PPP), which would shift part of

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<sup>44</sup> J. Feyerer, "Lessons from Galileo for future European public-private partnership in the space sector" in T.C Hoerber, P. Stephenson (eds.) "European Space Policy –European integration and the final frontier" (2015), pp. 211-222.

<sup>45</sup> K. Suzuki, "Policy Logics and Institutions of European Space Collaboration" (2003), p. 193.

<sup>46</sup> Ibid.

<sup>47</sup> European Commission, "Satellite navigation services: a European approach" COM(94)248 (1994).

<sup>48</sup> V. Reillon - European Parliament Research Service, "European space policy: Historical perspectives, specific aspects and key challenges" (2017), p. 9.

<sup>49</sup> U. Adam, "Satellites and framing - Reframing agriculture and agricultural machinery within EU space policy" in T.C Hoerber, P. Stephenson (eds.) "European Space Policy –European integration and the final frontier" (2015), pp. 131-141.

<sup>50</sup> European Commission, "European Transport Policy for 2010: Time to Decide" COM(2001)370 (2001).

<sup>51</sup> PricewaterhouseCoopers, "Inception Study to Support the Development of a Business Plan for the Galileo Programme. Prepared at the special request of DG TREN" (2001).

<sup>52</sup> K. Suzuki, "Policy Logics and Institutions of European Space Collaboration" (2003), p. 194.

the burden on the industry sector.<sup>53</sup> However, the long-term character of the project made its cost and revenues difficult to predict. The PPP ultimately failed in 2007, with the Court of Auditors finding evidence of inadequate leadership by the Commission “in developing and managing Galileo”<sup>54</sup>.

Meanwhile on the other side of the Atlantic the US displayed opposition to an independent European navigation system. US Defense Secretary Paul Wolfowitz warned European governments that Galileo could interfere with NATO’s military systems, while some even suggested it could represent a threat to US national security.<sup>55</sup> <sup>56</sup> The two sides came ultimately to an agreement in 2004 declaring that the two positioning systems would be fully compatible.<sup>57</sup>

After the failure of the PPP it was finally decided to finance Galileo entirely through the EU budget. Indeed, the new satellite system is today “funded and owned by the EU. The European Commission has overall responsibility for the programme, managing and overseeing the implementation of all activities on behalf of the EU”.<sup>58</sup> The European GNSS Agency (GSA) has been entrusted with the task to administer the programme and monitor whether users’ needs are met. Galileo now offers three initial services: an Open Service, a Public Regulated Service and a Search and Rescue Service. Available to governments and public authorities, the Public Regulated Service (PRS) is strictly related to the security and defence area. The PRS provides to law enforcement bodies and security and intelligence services encrypted and more reliable signals; the service benefits from anti-jamming and anti-spoofing<sup>59</sup> mechanisms that allow for continuity in the transmission of positional information and timing. The Galileo programme is expected to achieve Full Operational Capability (FOC) in 2020.

## GMES/Copernicus

Copernicus is the Earth Observation Programme jointly developed by the EU and ESA. It consists of a number of ground and space facilities whose joint work provides detailed imagery of the Earth’s surface. Its origins date back to 2010, when the Council and the Parliament adopted a regulation authorizing the start of the programme; it was previously known as Global Monitoring of Environment and Security (GMES) and then renamed Copernicus after a 2014 regulation.

The system serves as “Europe’s eyes on Earth” and collects both publicly accessible information and sensible data concerning security and defence. Indeed, besides providing imaging data for scientific and economic purposes such as fisheries control, temperature measurement and maritime environment monitoring, the programme includes a Security Service. The Security Service is

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<sup>53</sup> J. Beclard, “With the Head in the Air and the Feet on the Ground: The EU’s Actorness in International Space Governance” (2015) 19 *Global Governance*, p.471.

<sup>54</sup> Court of Auditors, “The Management of the Galileo Programme’s Development and Validation Phase”, Special Report 7/2009 (2009).

<sup>55</sup> K. Suzuki, “Policy Logics and Institutions of European Space Collaboration” (2003), p. 195.

<sup>56</sup> R. G. Bell, “Solving the Technical Issues of Galileo, GPS” in *Spacenews* (2002), p. 23.

<sup>57</sup> J. Beclard, “With the Head in the Air and the Feet on the Ground: The EU’s Actorness in International Space Governance” (2015) 19 *Global Governance*, p. 472.

<sup>58</sup> European Commission – DG GROW, “Galileo” in [ec.europa.eu/growth/sectors/space/galileo\\_en](http://ec.europa.eu/growth/sectors/space/galileo_en).

<sup>59</sup> “Jamming” refers to the deliberate disruption of communications through the exploitation of various devices. “Spoofing” consists in deceiving the receivers of satellite signals with incorrect positional information.

composed of three key areas: Support to EU External Actions (SEA), Maritime surveillance and Border surveillance.

Security services are implemented in partnership with specific EU agencies. For what concerns the support to the European External Action Service (EEAS), Copernicus provides geospatial information through the European Union Satellite Centre (SatCen); the data are used to improve Europe's situational awareness of territories where the Union conducts its ground missions.<sup>60</sup> Satellite imagery, for instance, facilitates the deployment of CSDP personnel and goods by assessing the status of road networks, airfields and facilities in unexplored territories. The Sentinel satellites also help identify possible smuggling routes and illegal vehicles trespassing non-EU border areas.<sup>61</sup>

#### 4. Institutional setup of the European space governance: the interplay between ESA and the EU

Before diving into the core analysis, it is important to outline the functions currently held by ESA and the EU in the landscape of the ESP; their relationship and alternative models of cooperation will also be explored. This exercise will prove to be fundamental to understand how the CSDP can be influenced by the space sector and what is the balance of power among the main actors.

European space governance is characterized by interwoven layers of decision-making that render its architecture one with a very complex design. Space governance can be defined as “the combination of legal norms that emanate from international, European and national legal frameworks which, together, organise a coherent decision-making process in both space policy and programmatic activities”<sup>62</sup> These layers indeed consist of member states, intergovernmental organizations and EU institutions and agencies. While it can be argued that the so-called space clause of the Lisbon Treaty granted more margin for manoeuvre to the Commission, space policy remains gripped by a confusing division of responsibilities.<sup>63</sup>

As emphasized previously, the European Space Agency has been the main international actor in space governance until the European institutions stepped up their involvement. Another intergovernmental organization, the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), was formed in 1983, but its relevance with regards to the shaping of the ESP is limited.

EU and ESA represent respectively the demand-side and the supply-side of space systems and infrastructure in Europe,<sup>64</sup> yet both organizations define space policy and fund space programmes.<sup>65</sup>

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<sup>60</sup> Copernicus.eu, Copernicus Security Service (2017).

<sup>61</sup> Copernicus.eu, Copernicus Service in Support to EU External Action (2017).

<sup>62</sup> F. Mazurelle et al., “The Evolution of European Space Governance: Policy, Legal and Institutional Implications,” in 6 *International Organizations Law Review*, (2009), p.161.

<sup>63</sup> European Commission, “Report from the Commission to the European Parliament and the Council on the implementation of the Galileo and EGNOS programmes and on the performance of the European GNSS Agency” COM(2017)616 (2017).

<sup>64</sup> Schout et al., “From the ‘Ordinary’ Method to the Transgovernmental Method - Comparative Trends in EU Governance”, Clingendael Report, Clingendael Institute (2019), p.13.

This has resulted into a multi-headed ESP which is often incoherent with respect to its objectives, purposes and financial aspects. For instance, the Commission made clear in the past that the ESA principle of *juste retour* should not be applied to projects where the institution is involved, as it contrasts with the competition rules enshrined in the treaties.<sup>66</sup>

The two different approaches with respect to industrial policy create chaotic frameworks hardly compatible with one another; indeed, some member states have bigger influence than others over ESA, with France, Germany, Italy and the United Kingdom retaining effective national space agencies, independent space programmes and powerful industries in the aerospace sector. They also contribute more to the budget and, consequently, receive more contracts for their industries according the *juste retour* principle. Championing competition, the Commission distrusts industry giants that monopolize certain sectors.

The distinct financial rules and cultures are not the only obstacle to an effective cooperation. Indeed, the two organizations have also different origins, structures and members. While the EU counts 28 member states to date, the ESA consists of 22 countries, with Norway and Switzerland being the countries without membership to the EU. Moreover, Canada has a special partnership with ESA, which allows this North American country to take part in the Council's meetings and participate in the space programmes. The two organizations' legal foundations also display significant differences: while the ESA convention consists of a cooperative agreement between its member states, the EU Treaties possess a quasi-constitutional nature.<sup>67</sup> Therefore, the ESA convention originally allows for more flexibility; this state of things leaves to each member state almost complete control of their funds. Only around 20% of the funding of ESA is destined to mandatory programmes, while the remaining 80% goes to the optional programmes (Earth observation, microgravity research and satellite communications etc.).<sup>68</sup>

The Agency's renowned flexibility, as opposed to the EU's alleged bureaucratization, is exemplified by the existence of such optional programmes. Projects concerning robotic and human space exploration are the responsibility of the Agency and constitute part of the optional programmes together with the Space Situational Awareness Programme (SSA) aimed at monitoring space environment.<sup>69</sup> The current relationship between ESA and EU was formalized with the 2004 Framework Agreement, which is automatically extended every four years.<sup>70</sup> The partnership contemplates that the technical aspects of space programmes are delegated to ESA, which also performs research and development (R&D) in its ground facilities, while the EU regulates the sector and ensures that the programmes benefit European citizens. The in-orbit validation phases are instead co-funded by ESA and the Commission. The Commission delegated the management of the programme to the European GNSS Agency (GSA) which relies on ESA for the supply of the physical infrastructure such as satellites and ground facilities.<sup>71</sup>

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<sup>65</sup> *Ibid.* 16.

<sup>66</sup> S. Hobe et al., "Project 2001 Plus" - Global and European Challenges for Air and Space Law at the Edge of the 21<sup>st</sup> Century", (2006), p.186.

<sup>67</sup> F. Mazurelle et al., "The Evolution of European Space Governance: Policy, Legal and Institutional Implications" in 6 International Organizations Law Review, (2009), p.166.

<sup>68</sup> [www.esa.int](http://www.esa.int), "ESA, an intergovernmental customer".

<sup>69</sup> V. Reillon - European Parliament Research Service, "European space policy: Historical perspectives, specific aspects and key challenges" (2017), p.23.

<sup>70</sup> Framework Agreement between the European Community and the European Space Agency

<sup>71</sup> [www.esa.int](http://www.esa.int), "Galileo Partners".

The division of responsibilities between the two organizations was further elaborated in the second Space Council meeting in 2005; the EU, the final documents establishes, “will use its full potentials to lead in identifying and bringing together user needs and to aggregate the political will of these [...] policy objectives [...]. It will contribute to the development, deployment and operation of corresponding dedicated European space infrastructure, in particular for Galileo and GMES”. ESA will instead “develop space technologies and systems, [...] Activities will focus on space exploration and on the basic tools on which exploitation and exploration of space depend: access to space, scientific knowledge and space technologies.”<sup>72 73</sup>

The most significant meeting of the Space Council on the topic of security and defence took place on 21 May 2007, when 29 European states adopted a “resolution on European Space Policy”. The importance of such document is exemplified by the first ever interorganizational acknowledgement of a connection between space policy and the security and defence aspects; indeed, in the resolution the Council “recognizes that space technologies are often common between civilian and defence applications and that Europe can, in a user-driven approach, improve coordination between defence and civilian space programmes, pursuing in particular the synergies in the domain of security, whilst respecting the specific requirements of both sectors and the independent decision competences and financing scheme.”<sup>74</sup>

Activities	EU	ESA	EUMETSAT	GSA	Member States	National space agencies	Industry
Define space policy	●	●			●		
Define and fund space programmes	●	●	●		●		●
Develop and implement programmes		●				●	●
Operates space programmes		●	●	●		●	●
Fund space R&D activities	●	●			●		●
Perform space R&D activities		●				●	●
Conduct space exploration programmes		●				●	
Regulate the space sector	●				●		

Source: Vincent Reillon, *European Space Policy: historical perspective, specific aspects and key challenges*, European Parliament Research Service, January 2017.

<sup>72</sup> F. Mazurelle et al., “The Evolution of European Space Governance: Policy, Legal and Institutional Implications” in 6 *International Organizations Law Review*, (2009), p.170.

<sup>73</sup> Second meeting of the Space Council (2005).

<sup>74</sup> Council Resolution of 21 May 2007 on the European Space Policy, OJ 2007/C 136/01.



## 5. The models of cooperation: which alternatives for the space governance?

With such a duplication of efforts and responsibilities, the issue of revising the relationship between ESA and the EU has ignited long debates both among scholars and within the respective decision-making bodies, mainly the Commission and the ESA Council. The absence of overlap in membership of European countries to the two organizations makes any institutional modification hard to accept and bound to long discussions between political bodies willing to retain their independence and fearful of losing their very *raison d'être*.

The 2002 “Wise men report” considered two options: 1) ESA would be incorporated into the EU’s institutional body and become its space agency, being deprived of its autonomy; 2) The two organizations would keep pursuing their cooperation-partnership model through a series of evolving joint statements and framework agreements.

The authors affirmed that “We see the need for a process of institutional convergence that does not exclude bringing the present ESA within the Treaty framework of the EU [...] the European Council should define the European Space Policy and the guidelines for its implementation [...] The ESA should be the space agency for Europe setting and implementing cooperative programmes, extending its fields of actions to defence requirements.” It is important to stress the reference to the defence field, as Article II of the ESA Convention expressly forbids cooperation not pertaining peaceful purposes.<sup>75</sup>

In an interview I personally conducted, the ESA Chief Strategy Officer Kai-Uwe Schrogl maintained that ESA member states still strongly resist any attempt to deprive the agency of its autonomy.<sup>76</sup> The space law expert Sergio Marchisio suggests a middle-ground solution whereby ESA would act both as space agency of the EU and intergovernmental organization; the EU would have the exclusive competence to draw up the space policy and the programme, with ESA playing a role in the implementation phase.<sup>77</sup> Today, the EU has a shared competence in space following the so called Lisbon Treaty’s space clause, which allows the EU to define and implement space programmes without preventing member states to do so.

This clause has led to the emergence of a peculiar alternative: the EU’s membership to ESA. Von der Dunk claims that such option would “result in a general balance of the two [industrial] approaches”, namely the ESA’s fair return principle and the focus on internal competition by the Commission. The EU could therefore use ESA as an instrument just like its member states do.<sup>78 79</sup>

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<sup>75</sup> Convention for the Establishment of a European Space Agency (1975).

<sup>76</sup> Phone interview conducted on May 12, 2019.

<sup>77</sup> S. Marchisio, “Proposals for an Institutional Realignment of the European Space Sector” in S. Hobe et al., (eds.) “Project 2001 Plus” - Global and European Challenges for Air and Space Law at the Edge of the 21st Century”, (2006), p.204.

<sup>78</sup> F. von der Dunk, “Perspectives of a Harmonized Industrial Policy of ESA and the EU” in S. Hobe et al, (eds.) “Project 2001 Plus” - Global and European Challenges for Air and Space Law at the Edge of the 21st Century”, (2006), p.190



Moreover, the issue of incorporating into the EU an agency with non-EU members would be avoided.

Before taking on the European Council's Presidency in the first half of 2019, Romania announced that the country would support, among other things, initiatives related to space; the country kept its promise by reviving the Space Council meetings last May, after a pause of eight years.<sup>80</sup> In its conclusions, the Council of the European Union stated that "a long-term consolidated strategic vision of the EU and ESA, according to their respective roles and responsibilities, is needed in order to build up a stronger space sector and to increase the influence of Europe on the global stage."<sup>81</sup>

Indeed, no steps forward have been made after the ESA-EU Joint Statement in 2016 and reforms of the governance regime seem a distant reality.<sup>82</sup> <sup>83</sup> Germany committed itself to organize a second meeting during its presidency in the second half of 2020.<sup>84</sup> Despite the renewed interest in space, decisive steps forward with respect to the European space governance will unlikely be taken in the near future.

## II. Neofunctionalism and the European Space Policy

As a horizontal policy with links to multiple policy areas, the ESP provides fertile ground to test the value of the neofunctionalist theory. First, this chapter will provide a brief dive into the origins of neofunctionalism and its most important concepts. In the second paragraph, the ESP will be assessed by using the neofunctionalist theoretical framework.

### 1. Introduction to the neofunctionalist theory

Neofunctionalism is among the most famed theories of European integration; to some scholars, it stands out as synonym of "integration theory" because of its focus on the phenomenon of regionalization.<sup>85</sup> While descriptive, neofunctionalism is also characterized by a normative nature which makes it entangled to the very birth of the European communities.<sup>86</sup> The architects of post-war European unity Jean Monnet and Robert Schuman were convinced that by integrating one or more sectors of the economy, integration in other sectors would follow, leading eventually to a fully integrated regional entity. This "integration by stealth"<sup>87</sup> would have finally resulted in the emergence of a federal state with technocratic features.

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<sup>79</sup> F. von der Dunk, "Towards one captain on the European spaceship—why the EU should join ESA" (2003) 19 *Space Policy*, p.84.

<sup>80</sup> Programme of the Romanian Presidency of the Council of the European Union 1 January – 30 June 2019 (2017), p.43.

<sup>81</sup> Council of the European Union, Council conclusion on "Space as an enabler" (28/05/2019).

<sup>82</sup> V. Reillon - European Parliament Research Service, "European space policy: Historical perspectives, specific aspects and key challenges" (2017), p.33.

<sup>83</sup> European Commission and European Space Agency, "Joint statement on shared vision and goals for the future of Europe in space by the European Union and the European Space Agency" (2016).

<sup>84</sup> ESPI Executive Brief 33, Reflections on the 9th EU-ESA Space Council (2019).

<sup>85</sup> B. Rosamond, "Theories of European Integration" (2000), p. 50.

<sup>86</sup> K. Athanasopoulos, "Spillover to Space: A Critical Investigation Into Neofunctionalist EU Space Policy" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 22.

<sup>87</sup> G. Majone, "Dilemmas of European Integration: The Ambiguities and Pitfalls of Integration by Stealth" (2009).

Technocracy is the core idea within the neofunctionalist theory; neofunctionalism draws inspiration from David Mitrany's functionalism, which considered the highest levels of governance the most efficient to bring about peace and prosperity at the global level under the leadership of experts and bureaucrats. What indeed differentiates functionalism from neofunctionalism is the former's belief that integrationist projects would not succeed at the regional level; consequently, Mitrany was sceptical of the process of European integration, as he feared that the flaws plaguing nation-states would be transferred to the higher regional levels of governance.<sup>88 89</sup>

Ernst Haas is considered the founding father of the neofunctionalist theory; his work focuses on the transfer of sovereignty from the state level to the supranational level in the context of European integration. The phenomenon which leads the supranational institutions to progressively acquire more powers and competences in more sectors of the economy, after being assigned the control over one or few sectors, has been named by Haas "spillover effect". This concept nourished the hopes of Monnet and Schuman in their pursuit of European unity.

Two different kinds of spillovers have been identified in the literature: functional or sectoral and political.<sup>90</sup> Functional spillover is strictly confined to the realm of economics. It takes place when integration in one domain requires and consequently gives place to integration in adjacent sectors for it to be successful; this is the case of the early stage of European integration, when the pooling of coal and steel triggered the integration of connected sectors and the emergence of the common market. Political spillover comes about when policymakers, unions, business associations and other social groups begin to transfer their loyalty towards the supranational institutions. The formation of Europarties and European interest groups throughout the years represents a clear example.<sup>91</sup>

Neofunctionalism does not reject the importance of nation-states, yet it puts major emphasis on supranational institutions – such as the Commission and the European Parliament – interest groups and networks of technicians that arise beyond the state level.<sup>92</sup> Peter Haas, son of Ernst Haas, described such networks as epistemic communities;<sup>93 94</sup> the individuals composing an epistemic community are usually experts and academics who share a set of normative principles and common practices and their inputs can steer the process of integration according to their preferences. As seen previously by illustrating the first years of European engagement in space, such expert groups are extremely relevant to the topic of this thesis as they have the ability to influence national policymakers and push for research and space endeavours to be carried out at the European level.

The common denominator of neofunctionalism's main concepts is therefore depoliticization. The

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<sup>88</sup> M. Alexandrescu, "David Mitrany: From Federalism to Functionalism", (2007), p. 30.

<sup>89</sup> K. Athanasopoulos, "Spillover to Space: A Critical Investigation Into Neofunctionalist EU Space Policy" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 22.

<sup>90</sup> J. Tranholm-Mikkelsen, "Neofunctionalism: Obstinate or Obsolete? A Reappraisal in the Light of the New Dynamism of the European Community" (1991) 20 Millennium: Journal of International Studies, p. 5.

<sup>91</sup> G. Ambrosius and C. Henrich-Franke, "Integration of Infrastructures in Europe in Historical Comparison" (2016), p. 130.

<sup>92</sup> P. C. Schmitter, "Ernst B. Haas and the legacy of neofunctionalism" in 12 Journal of European Public Policy (2005), p. 257.

<sup>93</sup> D. Berg-Schlosser and B. Badie, "International Encyclopedia of Political Science" (2011), pp.787-788.

<sup>94</sup> P. Haas, "Epistemic Communities and International Policy Coordination" (1992) 46 International Organization, pp. 1-35.

very name of the Commission and the EU's legislative acts (regulations, directives) resemble those of an expert group or a technical body rather than a political one; indeed, the Commission is considered the "politically independent executive arm" of the EU.<sup>95 96</sup>

With respect to spillovers in particular, politicians play the role of initiators of relevant processes. However, depoliticization allows for the bodies which are subsequently entrusted with the technical management of international organizations and agencies to acquire enough control and play a crucial role in carrying forward the integration process.

Another significant notion is path dependence, a concept borrowed from historical institutionalism and frequently utilized together with spillover to study the processes of institutional integration.<sup>97</sup> Pierson maintains that certain decisions and steps taken in the past may reduce the number of options available in the present to a given political subject or make the continuation of the status quo preferable to a complete or partial reversal (change of path), as the latter would be more costly. Hypothetically with respect to space policy and the CSDP, for instance, the setting up of Galileo as a European-wide project managed by the Commission made a complete return of such a policy area in the hands of member states very unlikely or even unthinkable.<sup>98</sup>

## 2. Neofunctionalism in the context of the ESP

Discourse analysis has confirmed that the Commission and the European Parliament nurture great interest over this domain.<sup>99</sup> Indeed, the executive arm of the EU has quite explicitly resorted to the concept of spillover to justify its interest in space matters. Athanasopoulos explained how in the 2003 Green Paper on Space Policy the Commission describes the ESP as a "demand-pull" because it "provides useful support to various community policies".<sup>100 101</sup> Among these policies figures the Common Foreign and Security Policy, whose credibility and effectiveness would also derive from the availability of a reliable "space component".<sup>102</sup>

What the Commission is suggesting is that policies where the EU has even only a mixed competence (transport) or a limited competence (CFSP) could achieve better results if assisted by space infrastructure. This undoubtedly recalls the spillover effect mentioned previously, as the Commission tries to form a "linkage" between different policy areas mostly outside of its jurisdiction and promote its involvement. A former commissioner admitted that he himself deliberately pushed for the Commission to take on a greater role in security and defence policy in the future by stressing the importance of space for that domain.<sup>103</sup> For instance, the Green Paper

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<sup>95</sup> europa.eu, About the EU – European Commission

<sup>96</sup> H. K. Athanasopoulos, "Spillover to Space: A Critical Investigation Into Neofunctionalist EU Space Policy" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 24.

<sup>97</sup> F. Schimmelfenig, "A differentiated leap forward: spillover, path-dependency, and graded membership in European banking regulation" in *West European Politics* (2016), pp. 483-502.

<sup>98</sup> P. Pierson, "The Path to European Integration: A Historical Institutional Perspective" (1996) in *Comparative Political Studies*, pp. 123-163.

<sup>99</sup> T. C. Hoerber, "The Development of European Space Policy through the lenses of Discourse Theory" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 69.

<sup>100</sup> *Ibid.*, p. 28.

<sup>101</sup> European Commission, "Green Paper on European Space Policy", COM/2003/0017 final, p. 27.

<sup>102</sup> *Ibid.*, p. 29

<sup>103</sup> H. K. Athanasopoulos, "Spillover to Space: A Critical Investigation Into Neofunctionalist EU Space Policy" in T. C. Hoerber and E. Sigalas (eds.), "Theorizing European Space Policy" (2016), p. 30.

states that Galileo also contributes to the “enhancement of the international influence of the European Union”.<sup>104</sup>

With regards to epistemic communities, using Haas’ criteria Athanasopoulos identified one in the ESA’s scientific circle. The Commission was influenced by the recommendations of ESA during the development of Galileo, as it represented the source of technical expertise that the institution did not possess.<sup>105</sup> In a report published in 1999 the Commission stated that “particularly the preliminary findings of the ESA GNSS-2 Comparative System Studies, have contributed to shaping the opinion and recommendations of the Commission” on Galileo.<sup>106</sup> <sup>107</sup> ESA also played a role in setting up the Copernicus programme; in 2001 the Commission endorsed “the establishment of a high-level steering committee composed of representatives of, inter alia, Member States, the Commission, the ESA, the EUMETSAT, users and industry”. Moreover, in a 2004 Communication the Commission recognized that “during the GMES initial period, the main findings have been derived”, among other sources, “from the GMES-related projects undertaken in the EC Research Framework programmes and ESA’s GMES Service Element programme.”<sup>108</sup>

The phenomenon of depoliticization was also observed in the early development years of Galileo. The project stirred some controversy for two reasons in particular: the dual-use application of the satellite network and its use as a substitute for the American Global Positioning System.<sup>109</sup> A dual use-application (civil and military) implied the armed forces’ reliance on a supranational project being out of the control of the single member states, which highly valued their sovereignty in the defence domain.<sup>110</sup> With respect to the international arena, replacing the American system would have instead caused repercussions on Euro-Atlantic relations. Ultimately, the Commission successfully used depoliticization to soften these adverse reactions; it focused on the technical aspects of Galileo by stressing that “it will improve the overall availability and coverage of GNSS signals” and in a diplomatic way reassured the Americans that “each system [would act] as a backup to the other, so that it becomes possible to base safety-of-life applications solely on satellite navigation”.<sup>111</sup> <sup>112</sup>

Although less controversial from an international relations perspective, Copernicus has a dual-use potential as well; the Commission utilized the same depoliticization technique. It supported the realization of the programme by underlining that “the production of information in support of environmental and security policies remains often below its full potential to provide benefits for the users”.<sup>113</sup> Moreover, in 2011 the Commission advised the Parliament and the Council that it would

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<sup>104</sup> European Commission, “Green Paper on European Space Policy”, COM/2003/0017 final, p. 25.

<sup>105</sup> H. K. Athanasopoulos, “Spillover to Space: A Critical Investigation Into Neofunctionalist EU Space Policy” in T. C. Hoerber and E. Sigalas (eds.), “Theorizing European Space Policy” (2016), p. 31.

<sup>106</sup> *Ibid.*

<sup>107</sup> European Commission, “Galileo: Involving Europe in a New Generation of Satellite Navigation Services”, COM(1999) 54 final, p. 7.

<sup>108</sup> European Commission, “Communication from the European Parliament and the Council: Global Monitoring for Environment and Security (GMES): Establishing a GMES capacity by 2008” (2004), p. 4.

<sup>109</sup> G. Brachet and B. Deloffre, “Space for defence: a European vision” (2006) 22 Space Policy, p. 94.

<sup>110</sup> . K. Athanasopoulos, “Spillover to Space: A Critical Investigation Into Neofunctionalist EU Space Policy” in T. C. Hoerber and E. Sigalas (eds.), “Theorizing European Space Policy” (2016), p. 31.

<sup>111</sup> *Ibid.*

<sup>112</sup> European Commission, “Galileo: Involving Europe in a New Generation of Satellite Navigation Services”, COM(1999) 54 final, p. 7.

<sup>113</sup> European Commission, “Global Monitoring for Environment and Security (GMES): Establishing a GMES capacity by 2008—(Action Plan (204-2008)), COM(2004) 65 final.

be better for the programme to remain under its management “based on the experience gained with the existing user community”.<sup>114</sup> Once again, the Commission displayed quite clearly its ambition to protect and extend its involvement in the ESP; this, in turn, would also implicitly grant the Commission a role in the CSDP.

With respect to path-dependence, Sigalas notices how each “random or non-random events that helped the EU acquiring formal competences on space” show a path dependent course taken by the space policy of the EU.<sup>115</sup> For instance, the 1987 Single European Act (SEA) allowed the Joint Research Centre (JRC) to embark on space-related research projects; that event cleared EU’s path towards its involvement into the space domain.<sup>116</sup> Jack Matthey, former Director at DG Research and Innovation argues that working to the set up and continuation of Galileo and Copernicus and subsequently adopting a fully-fledged space policy were natural steps to take after such research was inaugurated.<sup>117</sup>

This paragraph proved that space policy represents an ideal case study for a practical application of neofunctionalism; this was a necessary step to start investigating the links existing between European space policy and security and defence policy and find possible evidence of spillover between the two areas.

### III. The consolidation of space assets into the security and defence area

First, in this chapter a few examples of the security applications of space assets will be given. Second, an account of the role of the defence industry in space policy will be provided. Furthermore, by using neofunctionalism as a theoretical framework, this chapter will evaluate the concrete presence of functional and political spillovers involving the ESP and the CSDP.

#### 1. The use of satellites in CSDP ground missions

The CSDP is the main component of the CFSP; under the CSDP umbrella a number of military operations consisting of peacekeeping and peace-making missions, crisis management, search and rescue and humanitarian protection are carried out at the European level, with the potential participation of all 28 member states.

There are a several aspects of the security and defence policy that very much rely on space infrastructure for their effective functioning; the European Defence Agency (EDA) refers to them as

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<sup>114</sup> European Commission, “Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions on the European Earth Monitoring programme (GMES) and its operations (from 2014 onwards)”, COM(2011) 831.

<sup>115</sup> E. Sigalas, “The Rise of the European Union as a Space Power: A Historical Institutional Explanation” in T. C. Hoerber and E. Sigalas (eds.), “Theorizing European Space Policy” (2016), p. 166.

<sup>116</sup> *Ibid.*, p. 167.

<sup>117</sup> *Ibid.*, p. 169.

Space Based Information Services.<sup>118</sup> Below, a quick look will be given at the main security applications of space components.

Command, Control Communications and Information (C3I) systems are essential to the management of military operations, as the transmission of orders and instructions from the command centres represent a crucial prerogative for the success of any operation. Satellites constitute an important component of such systems, as they help provide optimal signal coverage for voice, data and video communications in the most remote areas of the planet.<sup>119</sup> The Intelligence, surveillance, target acquisition and reconnaissance (ISTAR) domain mainly relies on Earth observation data. Primarily, such satellites allow users to assess the presence of land, sea and air forces, identify eventual damages or infrastructures on land areas and monitor the ground conditions.<sup>120</sup> Furthermore, signals intelligence satellites intercept data from the enemy's electronic devices (radios, radars) in order to identify their intentions and position.<sup>121</sup>

Precise positioning, navigation and timing data are also valuable assets in the hands of military forces and intelligence services. Satellites can provide three-dimensional positioning data 24h a day, with a quasi-perfect geolocation and timing, contributing to an effective application of military capabilities. Weather and mapping are also extremely relevant for the preparation of crisis management missions; dangerous terrains can be mapped through 3D technologies and the projections used in simulations during the training sessions for the military personnel.<sup>122</sup>

As outlined in the previous chapter, both Galileo and Copernicus already incorporate important features to be used in the area of security and defence. Galileo's Public Regulated Service (PRS) could provide a resilient and robust signal to defence authorities for precise positioning navigation and timing;<sup>123</sup> to this regard, EDA and the Commission (DG GROW) are currently investigating the use of Galileo and Copernicus for defence.<sup>124</sup> With regards to Copernicus, it mostly provides weather and mapping services to the CSDP. The programme was the subject of a series of presentations during the Marseille's Space Week last January, where Darek Saunders, Senior Research Officer at Frontex, confirmed the importance of the European Earth observation programme in the area of security and defence.<sup>125</sup>

## 2. The role of space assets and the aerospace industry in the evolution of the European Defence Agency (EDA)

A deeper understanding of the origins of EDA and its functioning will help to better comprehend how the growing interest towards space has deeply involved the field of security and defence as

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<sup>118</sup> European Defence Agency, EDA information sheet on space (2018).

<sup>119</sup> A. Kolovos, "Why Europe needs space as part of its security and defence policy" (2002) 18 Space Policy, p. 260.

<sup>120</sup> *Ibid.*

<sup>121</sup> *Ibid.*

<sup>122</sup> *Ibid.*, p. 261.

<sup>123</sup> European Global Navigation Satellites Systems Agency (GSA), Galileo Services – Public Regulated Service (PRS) (2018).

<sup>124</sup> European Defence Agency, Factsheet on Space (2018).

<sup>125</sup> European Global Navigation Satellites Systems Agency (GSA), "European space community steps up to Security and Defence" (2019).

well.<sup>126</sup>

The European External Action Service (EEAS) and EDA are currently the two main EU agencies directly involved in the link between the ESP and the CSDP. However, as will be demonstrated in detail later, the Juncker's "political Commission" has consistently sought to extend its involvement into the area.<sup>127</sup>

The EEAS set up a Task Force for Space headed by a Special Envoy for Space; his/her main tasks include advising the High Representative in matters concerning space, coordinating the activities in this area and representing the EEAS in the international space-related organizations;<sup>128</sup> in an interview for EDA's magazine, the former Envoy François Rivasseau stated that "each level of the CSDP governance, a field commander of an EU civilian/military mission or a political representative of the EU, should be aware of the capabilities of the EU space programs and should be able to benefit from them".<sup>129</sup>

However, EDA stands out as the EU agency with most involvement in space from a security and defence perspective. It was established in 2004 as a cooperative framework for member states to manage the EU-wide armament industry and affairs.<sup>130</sup> Framed as an intergovernmental forum for the member states' defence ministers, initially EDA's involvement in space was almost non-existent, but incremented considerably over the last years with the setup of independent projects and the participation in external programmes.<sup>131</sup> The Agency is today a "stealthy protagonist" of the ESP, being involved in numerous space projects together with the main institutional actors.<sup>132</sup>

Space-based services are central to two of the eleven priority areas of EDA's 2018 revised Capability Development Plan (CDP), an important document providing guidance for decision-making regarding defence at the national and European level. The themes included in this area reflect most of the space services outlined above: Earth observation, positioning, navigation and timing, Space Situational Awareness (SSA), satellite communication, information superiority (radio spectrum management, tactical communication and information system (CIS); information management; intelligence, surveillance and reconnaissance capabilities) air superiority (ballistic missile defence) and cyber defence.<sup>133</sup> The recent attention given to space capabilities by EDA clearly indicates an ever-growing synergy between space policy and security and defence policy.

EDA's interest towards space capabilities is certainly linked to the increasing reliance of security and defence forces on space infrastructure. However, Oikonomou has showed how the military industrial sector, including the aerospace industries, have played a fundamental role in laying the ground for its establishment in 2004 and continue to exert some influence on the current

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<sup>126</sup> V. Reillon - European Parliament Research Service, "European space policy: Historical perspectives, specific aspects and key challenges" (2017), p.34.

<sup>127</sup> P. Haroche, "Supranationalism strikes back: a neofunctionalist account of the European Defence Fund" (2019) *Journal of European Public Policy*.

<sup>128</sup> European External Action Service, Special Envoy for Space, Job Description (2019).

<sup>129</sup> European Defence Agency, "Space & Defence: the sky is *not* the limit" (2017) 13 *European Defence Matters*, p. 12.

<sup>130</sup> I. Oikonomou, "The European Defence Agency and EU military space policy: Whose space odyssey?" (2012) 28 *Space Policy*, p. 102.

<sup>131</sup> *Ibid.*

<sup>132</sup> *Ibid.*, p. 105.

<sup>133</sup> European Defence Agency, Factsheet on Space (2018).

activities.<sup>134</sup> The European Defence Industries Group (EDIG) has been advocating an armaments procurement agency since the mid-1990s. For what concerns the space domain specifically, in the early 2000s the aerospace sector industries were invited to take part in the European Advisory Group on Aerospace; a forum set up by the European Commission's DG Enterprise. Among the industries represented were the European Aeronautic Defence and Space Company (EADS), today known as Airbus Group, the French companies Thales and Snecma, the Italian Finmeccanica and the English BAE Systems.

A joint declaration by BAE Systems, Thales and EADS concluded that an EU armaments agency "would take on massive strategic importance for the future of the European defence industry".<sup>135</sup> In the meantime, the arms producers were also calling for an increase in the member states' military budgets, juxtaposing them to the conspicuous investments made by the US government.<sup>136</sup> <sup>137</sup> The EADS senior-vice president Michel Troubetzkoy recalls that "European defence budgets were declining, especially in the research & technology area. At the same time, the US was boosting its R&T effort through its Defense Advanced Research Projects Agency (Darpa). In fact, a European Darpa was what we called for".<sup>138</sup>

The aerospace industry secured direct links with the Agency Establishment Team (AET), the embryo of what would soon become EDA. In the same period, the European Association of Aerospace Industries (AECMA), EDIG and Eurospace, the trade association of the European space industry, published a position paper expressing their preferences regarding the programme and the structure of the future agency.<sup>139</sup> <sup>140</sup> The three would then form the AeroSpace and Defence Industries Association of Europe (ASD) and keep pressuring for the setup of the agency.

The benefits for the aerospace industry that stem from the establishment of a European defence agency are substantial. Firstly, the agency provides an intergovernmental forum where to discuss defence matters on a higher level directly with the EU ministers of defence; this is an important development for an industrial sector that was headed towards the overcoming of national boundaries and towards regionalization.<sup>141</sup> More importantly, the defence agency serves as procurement platform whose demand for space-related equipment and services can only be met by the highly specialized aerospace companies, which profit by securing the funding and contracts available.<sup>142</sup> Today, the aerospace industry leads the ranking with regards to the amount spent in lobbying at the European level: Airbus Group, Rolls Royce and Safran figure on top.<sup>143</sup>

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<sup>134</sup> I. Oikonomou, "The European Defence Agency and EU military space policy: Whose space odyssey?" (2012) 28 Space Policy, p. 107.

<sup>135</sup> BAE Systems, EADS and Thales, "Joint Declaration: Time to act!" (2003).

<sup>136</sup> I. Oikonomou, "The European Defence Agency and EU military space policy: Whose space odyssey?" (2012) 28 Space Policy, p. 107.

<sup>137</sup> BAE Systems, EADS and Thales, "Joint Declaration: Time to act!" (2003).

<sup>138</sup> European Defence Agency, *The birth of an agency* (2019).

<sup>139</sup> I. Oikonomou, "The European Defence Agency and EU military space policy: Whose space odyssey?" (2012) 28 Space Policy, p. 107.

<sup>140</sup> AECMA, EDIG and EUROSPACE, "Position Paper – European Armaments, Research and Military Capabilities Agency" (2003).

<sup>141</sup> I. Oikonomou, "The European Defence Agency and EU military space policy: Whose space odyssey?" (2012) 28 Space Policy, p. 107.

<sup>142</sup> *Ibid.*

<sup>143</sup> Corporate Europe Observatory, "Arms Industry Lobbying and the Militarization of the EU" (2017).



The increasing attention that these companies show towards the European institutions runs parallel to the officialization of space policy as a complementary service to defence policy. The EU global strategy explicitly requests more investments in satellite communications, permanent earth observation and autonomous access to space and EDA represents a key actor.<sup>144</sup> As we observed, it has significantly extended its connection to space policy, driven by the technological evolution of the military equipment and guided in the process by an aerospace industry in search of a new influence to exert at the European level.

### 3. Dual-use technologies

We have outlined the developments leading EDA to acquire a role in space, with particular emphasis on the aerospace industry. Indeed, the previous analysis helped to shed light on the increasing “militarization” of space and on the consistent influence of the armaments companies in the space sector at the European level.

However, the validation of the hypotheses concerning functional and political spillovers in space policy, with effects on the CSDP, requires further elaboration of the key concept of dual-use technologies.

When the production chains cross national boundaries and economies of scale materialize, as it happened to the large aerospace industries, it becomes more convenient for such companies to operate in both the civilian and military markets and to specialize on dual-use technologies and devices (i.e. helicopters, satellites). Examples include the setup of Airbus Helicopters, the manufacturing division of Airbus specialized on civilian and military helicopters, and the production of the TerraSar-X satellite developed by EADS Astrium, originally intended as a dual-use satellite.<sup>145</sup> The high resolution images provided by TerraSar-X are used for civilian and security aims. Galileo and Copernicus represent dual-use satellites themselves and can be considered the most tangible examples of the horizontality of space policy, as they serve civilian as well as military purposes.

With respect to the EU, its Research and Development programmes encourage the joint development of new technologies; indeed, dual-use technologies have historically been at the centre of the Commission’s strategy with regards to R&D. In 1997, the Commissioner for Industry Bergmann proposed to coordinate the Commission’s research programmes, destined to benefit the civilian market, with the defence programs of member states.<sup>146</sup> As certain technologies had applications in both the civilian and military sector, it made sense to gather the programs under a single umbrella, but the proposal was met by resistance on the part of member states. A similar dynamic took place later with the European Security Research Programme (ESRP). While the member states subsequently set up EDA, the Commission secured an important legal victory by

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<sup>144</sup> European Union, “Shared Vision, Common Action: A Stronger Europe – A Global Strategy for the European Union’s Foreign and Security Policy” (2016).

<sup>145</sup> T.R Guay, “Integration and Europe’s Defense Industry: A “Reactive Spillover” Approach” (1996) 24 Policy Studies Journal, p. 408.

<sup>146</sup> A.D. James, “Policy entrepreneurship and agenda setting: comparing and contrasting the origins of the European research programmes for security and defense”, in N. Karampekios, I. Oikonomou et al. (eds), “The Emergence of EU Defense Research Policy: From Innovation to Militarization” (2018).

having its Defence Package approved.<sup>147</sup> Furthermore, EU officials confirmed that the military sector benefited from projects originally intended for the civilian sector.<sup>148</sup>

The EU Satellite Centre (SatCen) offers an excellent example of how dual-use technologies come to use in the space sector, and how space policy affects the CSDP. In the report by the EU-CIVCAP (European Civilian Capabilities project) dedicated to dual-use technologies SatCen is mentioned several times; the agency is defined as the “joining link between commercial and EU civilian space programmes for Earth Observation, on one side, and EDA and other security and military users on the other”.<sup>149</sup> SatCen provides geospatial intelligence to CSDP missions and has also participated in the evolution of the Copernicus Programme.<sup>150</sup>

#### 4. The European Defence Fund (EDF)

The European Commission, in its pursuit of an integrated Single Market, used the powers conferred by the Member States to extend its competences on additional sectors, such as energy and space policy. In the words of Tarnholm-Mikkelsen, “the Commission consistently attempts to upgrade the common interest by linking new proposals with the initial commitment to the 1992 objective. It seems to keep saying to the Council that ‘if you really want the internal market, as you say you do, then you must buy this as well.’”<sup>151</sup>

The European Parliament has recently approved the establishment of a European Defence Fund (EDF) for the MFF period 2021-2027; the proposal was developed in the framework of the community method following a Commission proposal in 2017 and can thus safely be considered a supranational initiative.<sup>152</sup> Many security officials see the EDF as a breakthrough<sup>153</sup>, with one official even declaring that “We must acknowledge that in four years the Commission did more than member states did in 13 years within EDA.”<sup>154</sup>

For the period lasting until the next MFF, the Commission established two research programmes to implement the EDF: the Preparatory Action for Defence Research (PADR) and the EU Defence Industrial Development Programme (EDIDP) with a budget of respectively nine million euros and five hundred million euros. These two programmes represent a real paradigm shift with respect to the competences of the Commission. Indeed, their establishment was preceded by a dispute between DG GROW and the Commission’s Legal Service: the Treaty on EU explicitly prohibits the use of EU funds for initiatives associated to military uses. However, DG GROW justified the allocation of funds to research on defence by resorting to its economic significance in terms of job creation and

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<sup>147</sup> *Ibid.*

<sup>148</sup> *Ibid.*

<sup>149</sup> EU-CIVCAP, “Preventing and Responding to Conflict: Developing EU CIVILIAN CAPAbilities for a sustainable peace - Report on dual-use technologies” (2018), p.20.

<sup>150</sup> *Ibid.*

<sup>151</sup> J. Tranholm-Mikkelsen, “Neofunctionalism: obstinate or obsolete? A reappraisal in the light of the new dynamism of the EC” (1991) 20 Millennium, p. 15.

<sup>152</sup> P. Haroche, “Supranationalism strikes back: a neofunctionalist account of the European Defence Fund” (2019) Journal of European Public Policy.

<sup>153</sup> *Ibid.*, p. 1.

<sup>154</sup> *Ibid.*, p. 9.

The EDF was initially proposed by Commissioner Bieńkowska (DG GROW) to President Juncker in 2016 and was ultimately integrated into the European Defence Action Plan. Bieńkowska herself asserted that “Europe must become a security provider”. It is worth reminding that DG GROW is also the Directorate General in charge of space affairs and was actively involved in the relaunching of the Space Council this year. Similarly to the experience of EDA’s Agency Establishment Team, Bieńkowska relied on the input of Europe’s major armament industries in search of technical expertise before setting up the research funds.<sup>156</sup> These events clearly show the supranationalization of matters until now almost exclusive prerogative of the member states and intergovernmental agencies such as EDA. For instance, the Commission has obtained the exclusive authority over the management of the EDIDP with the support of the European Parliament, despite the will of the member states to involve EDA.<sup>157</sup>

In view of the DAPR, the EDIDP and the fund’s post-2020 implementation, DG GROW was compelled to create a second internal unit as it suffered from understaffing.<sup>158</sup> However, the newly formed Von der Leyen Commission has taken an even more ambitious path by establishing the DG for Defence Industry and Space. This move represents yet another striking evidence of how space policy and security and defence policy are intertwined. The new DG will include the divisions I) Financial Management of Space Programmes, II) Space Policy, Copernicus and Defence, III) EU Satellite Navigation Programmes and IV) Access to Procurement Markets. The DG will also be responsible for the relations with the European GNSS Agency (GSA).<sup>159</sup>

The EDF is also linked to the Permanent Structured Cooperation (PESCO) mechanism through the co-financing of a few projects. The “sleeping beauty”, as President Juncker put it,<sup>160</sup> has been activated in 2017 and two of its projects revolve around space infrastructure: the EU Radio Navigation Solution (EURES) and the European Military Space Surveillance Awareness (EU-SSA-N). EURES promotes “the development of EU military PNT (positioning, navigation and timing) capabilities and future cooperation taking advantage of Galileo and the public regulated service”, while EU-SSA-N is aimed at developing “an autonomous, sovereign EU military SSA capability that is interoperable, integrated and harmonized with the EU-SST Framework initiative for the protection of European MS Space assets and services. It will also enable appropriate response to natural and manmade threats.”<sup>161</sup> While PESCO is an intergovernmental mechanism by nature, Garoche does not exclude a possible major involvement of the Commission in the future in view of the spillover mechanisms described above.<sup>162</sup>

The role of the Commission in the sector is particularly strengthened by the financial incentives it

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<sup>155</sup> *Ibid.*, p. 10.

<sup>156</sup> P. Haroche, “Supranationalism strikes back: a neofunctionalist account of the European Defence Fund” (2019) *Journal of European Public Policy*, p. 10.

<sup>157</sup> *Ibid.*, p. 11.

<sup>158</sup> *Ibid.*, p. 13.

<sup>159</sup> European Commission, “European Commission 2019-2024 – Allocation of portfolio and supporting services” (2019).

<sup>160</sup> European Commission, “Speech by President Jean-Claude Juncker at the Defence and Security Conference Prague: In defence of Europe” (2017).

<sup>161</sup> PESCO website.

<sup>162</sup> P. Haroche, “Supranationalism strikes back: a neofunctionalist account of the European Defence Fund” (2019) *Journal of European Public Policy*, p. 15.

has to offer thanks to the EU's own resources; as an EU official put it, for the Commission, money "has always been a way to get into a policy."<sup>163</sup>

## 5. Functional and political spillovers: an appraisal

It has been demonstrated how space policy, favoured by its horizontal nature, has become intertwined with security and defence policy. This is true for the intergovernmental level, as seen in the analysis of the evolution of EDA, and for the supranational level, with the Commission and the European Parliament prone to allocate more funds to security and defence and to space programmes.

With respect to functional spillovers, the Commission exploited its original competences in matter of R&D and Industry to bring space policy into its remit; in parallel, the dual-use significance of civilian technologies, satellites and space programmes, such as Copernicus and Galileo, has provided the justification for the Commission to extend its arms over the defence sector.

The setup of a DG dealing with Defence Industry and Space is certainly the most visible consequence of functional spillovers. However, the Commission has also put forward an ambitious proposal aimed at restructuring the EU's internal space governance. The initiative takes the form of a regulation and calls for the establishment of a European Space Programme and the upgrade of the GNSS Agency, which would take the name of European Union Agency for Space.<sup>164</sup> The ESA's director Jan Woerner warned about a possible duplication of efforts.<sup>165</sup> Questioned over the interinstitutional quarrel, the European GNSS Agency (GSA) has diplomatically stated that it views "the European Space Agency as a partner, rather than a competitor".<sup>166</sup>

With the new Commission, Galileo, Copernicus and the overall EU space sector would be put under the control of DG Defence Industry and Space. This is the result of a long process in which the Commission has 1) benefited from the failure of the Galileo's PPP and the expertise of the ESA's epistemic community, 2) resorted to depoliticization to become more involved in the development of the two projects and 3) stressed the horizontality of the space policy and the dual-use of such programmes to indirectly bring the CSDP into its remit. Dual-use technologies thus served as enabling elements for the Commission to focus on the civilian as well as the military aspect of space policy.

With respect to political spillovers, the logic of strategic autonomy and independence from other space-faring nations is consistently being used by the European political elites to justify investments in both space infrastructure (GNSS and Earth observation) and purely military applications such as the Medium Altitude Long Endurance Remotely Piloted Aircraft System (MALE RPAS), the so called Eurodrone.<sup>167</sup> We have observed how official documents related to space policy consider European independence in space, especially for security reasons, as a top priority. The commitment to setup EDA by the aerospace industries and the sums spent for lobbying activities in Bruxelles also show the shift of attention from the national to the supranational level of these companies,

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<sup>163</sup> *Ibid.*, p.9.

<sup>164</sup> European Commission, "Proposal for a regulation of the European Parliament and of the Council establishing the space programme of the Union and the European Union Agency for the Space Programme".

<sup>165</sup> Jan Woerner, "United Space in Europe, United Europe in Space" (2018).

<sup>166</sup> E-mail interview – questions received on Jun 26<sup>th</sup> 2019.

<sup>167</sup> European Commission, "Towards a European Defence Union: Towards a more united, stronger and more democratic Union" (2019).

validating the logic of political spillover in the business network as well.

Ultimately, there is enough evidence of functional and political spillovers to confirm the hypotheses raised previously; while member states' political elites remain extremely jealous of their roles and duplication of military systems and structures of space governance persist, there are proofs that space policy and security and defence policy progressively acquired more importance in the corridors of Bruxelles. Several CSDP missions could be unthinkable, as of today, without the contribution of satellites for the provision of earth imagery and geospatial information. This reality is exploited by European institutions, especially the Commission, to bring the defence area under their remit.

## Conclusion

The present research shows that, through its flagship programmes and minor projects, the European Space Policy contributes to a considerable extent to an effective implementation of the Common Security and Defence Policy. By resorting to the neofunctionalist theoretical framework, the thesis has been able to unfold the mechanisms underlying the supranationalization and the evergrowing synergy between the two domains, starting from the establishment of ESA and the early involvement of the EU to conclude with the creation of a DG for Defence Industry and Space and of an EU Space Agency.

In the framework of neofunctionalism, spillovers and depoliticization feature as the main epistemological instruments to make sense of the path that allowed the EU, especially the Commission, to acquire a leading role in space. However, the application of concepts such as epistemic community and path dependence has also contributed to a more systemic explanation of the phenomenon. The EU, especially the Commission, has exploited this path to gain influence of the defence area. Indeed, the historical analysis has shown that the supranationalization of space policy has run parallel to the regionalization of the armaments industry, which in turn has made a European procurement agency more urgent in the face of a costly duplication of defence systems. However, for now, the EU has only secured the management of an ambitious defence fund.

A detailed analysis of the military applications of space assets clarified the role that Galileo, Copernicus and satellite systems in general play in planning and executing all kinds of security-related operations. Both Galileo and Copernicus fit into the definition of dual-use technologies and are the most striking examples of the contribution of space policy to the CSDP. It has been demonstrated how the geospatial intelligence provided by Galileo and the Earth imagery produced by the fleet of Sentinel satellites composing the Copernicus programme are highly regarded by the European Commission, the EEAS and Europe's chancelleries for the security purposes they can fulfil. The Commission's activism and the predominance of dual-use technologies in the space sector served as the main catalysts for the emergence of functional spillovers.

To date, the decisions pertaining the CFSP and the CSDP remain in most part a prerogative of the national governments. However, as all the evidence points to an increasing interest towards space and its supportive role in the CSDP, the most recent political developments described in the paper might foretell the emergence of a supranational space-defence nexus. The logics of autonomy,

independence and competition raised by the European institutions and reinforced by a threatening international environment have marked a clear path, originally traced by political spillovers. Nevertheless, any teleological explanations must be avoided, in the awareness that any human process displaying high degrees of linear progression might fall victim of the unpredictability of history.

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