

A Stronger EU in Cosmos: Embracing the Concept of Space Security

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DOI: 10.13111/2066-8201.2016.8.3.9

Received: 26 July 2016/ Accepted: 18 August 2016/ Published: September 2016

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Abstract: *The recently unveiled EU Global Strategy for Foreign and Security Policy presents bold and ambitious plans in several increasingly important domains for Europe, including outer space. The EU has committed itself to securing an autonomous access to space, providing security for its space-based assets, and promoting the adoption of a voluntary code of conduct in space. With the evolving dynamics in astropolitics, space security has become an ever more important aspect of space activities. Clearly, the EU has a vested interest in space security, whereas space-enabled services form an important part of European economy and contribute to effective implementation of its energy policy, migration, border control as well as domestic and international crisis management. Since the EU is currently in the process of drafting a European Space Strategy, it should seize the opportunity to take stock of its existing space programs and lay out a promising way forward. Besides reinforcing the existing Copernicus and Galileo programs and further developing the Governmental Satellite Communications (GOVSATCOM) project, the EU should make a significant investment in space security, particularly through boosting its Space Surveillance and Tracking (SST) capabilities and actively working on the international fora to promote a responsible behavior in outer space that could be eventually transformed into a voluntary international code of conduct. Through a comprehensive space policy and by reinforcing its autonomy in outer space, the EU will not only strengthen its foreign and security policy, but also reconfirm its relevant role in global affairs.*

Key Words: *space security, space strategy, Copernicus, Galileo, GOVSATCOM, space surveillance and tracking, international code of conduct*

1. INTRODUCTION

In the past couple of years, the EU had worked intensively on charting an up-to-date course for its foreign and security policy, looking to reaffirm its international standing as a strong and reliable partner. The EU Global Strategy for Foreign and Security (EUGS) presented at the European Council in June 2016 lays out an ambitious plan for Europe driven by shared vision and common action [1]. Yet the referendum on BREXIT, which took place a few days prior to the European Council, has raised doubts on the ability

¹The views and opinions in the article are solely those of the author and do not represent official positions of the Slovak Ministry of Foreign and European Affairs

of the EU to adopt a lasting European strategy. It has become increasingly obvious that the EU will have to generate a substantial effort in order to stand a test of unity and solidarity.

Indeed, much has changed since the early years of the new millennium, when the EU could say with a fair share of confidence that Europe had never been so prosperous, secure and free. The current security environment can be characterized as increasingly unstable and unpredictable.

Emerging threats and challenges surround Europe in all directions, including through ongoing conflicts, civil wars, attempts to redraw borders and the recent effort to topple a legitimate democratic government.

Europe is facing unprecedented waves of migration and appalling acts of terrorism. In addition, we are witnessing growing trends of radicalization and violent extremism among European citizens, of whom many do not align with the way the EU represents their needs and interests.

The referendum on BREXIT may be viewed as a wake-up call within the EU's effort to reaffirm its international standing and rediscover its identity, which makes it unique and strong in a globalized world. No doubt, it is time for a deep and thorough self-reflection.

Whereas the EUGS may in the end not serve its original purpose -- producing a lasting European vision for the next 6-8 years -- it does, however, offer a bold and ambitious way forward in several increasingly important domains, including space.

In comparison to the European Security Strategy from 2003 (revised in 2009), which referred to space only once, the EUGS can be viewed as much more progressive in this regard [2]. It not only highlights the growing importance of space in promoting fair and open markets, but it portrays the EU as an autonomous actor in space capable of providing security for its space-based services, including for communication, remote sensing as well as defense and security-related purposes.

In line with this ambition, the EU wants to remain in the forefront within future international negotiations on adopting voluntary principles for responsible behavior in outer space.

2. GROWING LIKELIHOOD OF SECURITY INCIDENT IN SPACE

Outer space has become an ever more contested domain with multiple stake holders pursuing their own interests, including states, private entities, non-governmental organizations, and science and academia.

The global governance of space activities has been maintained mainly through UN treaties, which create a universal legal framework, as well as through several non-binding guidelines and transparency and confidence-building measures [3]. From the security standpoint, militarization of space has become an international norm established during the early years of space era. In fact, space militarization can be used interchangeably with the term "peaceful uses of outer space," which does not preclude using space for certain military and intelligence applications [4].

There are only few exceptions to this generally accepted standard, one of them being the ban to place in orbit any objects carrying nuclear weapons or any other kinds of weapons of mass destruction [5]. This arrangement, however, does not prohibit the placement of other weapons in outer space or an interference with space-based assets and services.

To this date, no country has declared the placement of any kind of weapon in space; however, several countries have successfully tested anti-satellite weapons (ASAT), which can temporarily interfere with or permanently damage satellites and the services provided by

orbital platforms [6]. Nevertheless, the most critical challenge to space security continues to be the threat of uncontrolled space debris, which poses a great risk to any space operations, including manned missions [7].

According to the European Commission, by 2020, there will be around a million of objects of 1cm in length in orbit with the potential to damage or destroy a satellite [8]. Whether it will be a technologically-sophisticated ASAT system, a cyber attack, space debris or a maneuverable “killer satellite,” outer space will continue to represent a high-stake arena with growing likelihood of a security incident [9].

What is more, with the increasing probability of a conflict involving space, the paradigm of not placing any weapons in orbit may be gradually drifting away [10], [11]. Recently, major space powers have introduced initiatives that attest to the evolving dynamics in astropolitics.

The United States Air Force has unveiled a conceptual plan entitled “Space Mission Force” aimed at training military satellite operators to defend U.S. satellites in space, including through countering and defeating the associated threats [12]. In past two years, the UN General Assembly has voted on a resolution submitted by Russia, China and Brazil that proclaims no first placement of weapons in outer space.

Due to differing views on space arms control, the USA has opposed the resolution, whereas the EU has abstained in its vote [13].

The EU has been an active player in the domain of space for quite some time; however, the recent change of dynamics in aiming for autonomy in space should be viewed in the context of refining its Common Foreign and Security Policy (CFSP).

Recent developments have clearly showed that Europe cannot afford to close itself inward, but needs to remain actively engaged in global affairs. The Lisbon Treaty made from the EU a single legal personality, which has enabled it to be a more active and stronger player on international fora, including the UN, for instance.

Its diplomatic presence has been reinvigorated by the creation of a one-of-its kind multinational diplomatic corps with representation in 139 countries worldwide. Similar trends can be observed in the area of security and defense, for example through the establishment of EU Battle Groups as an instrument of autonomous European military capabilities. The European Defense Agency (EDA), a part of CFSP institutional framework, has been in the lead of strengthening the EU’s autonomy in the area of security and defense, with some projects also extending in the domain of space such as the Governmental Satellite Communications (GOVSATCOM).

Yet the EU does not have its own space agency. The majority of its space activities, including the two flagship projects -- global satellite navigation system Galileo and Copernicus remote sensing satellites -- have been realized and operated by the European Space Agency (ESA).

ESA represents an independent intergovernmental agency, of which relations with the EU are governed by the joint framework agreement dating back to 2004. In recent years, however, both sides have shown interest to coordinate each other’s activities more closely and advance mutual cooperation to a new level.

The strategic value of space to the EU has been recognized in numerous areas that benefit European citizens, including earth observation, location-based services, navigation, and also security and defense aspects.

According to EU statistics, around 6% of the EU’s GDP are directly tied to space-based services [14]. Along with a great economic and job growth potential, space sector is of indispensable value to the EU in several other areas such as energy policy, migration, border

control and domestic and international crisis management, which all together make the EU a stronger global actor. The Treaty of Lisbon granted the EU a stronger role in both space and security matters.

Additionally, the 2011 EU Space Strategy has particularly recognized the security potential of spacecraft, which are not only an important instruments within foreign and security policy, but also a critical asset that needs to be protected [3]. In practical, terms, the EU has invested into several security-related space programs and established an appropriate institutional framework, which includes the EDA and the EU Satellite Center (EU SATCEN), among others.

Whereas the EDA carries out several projects involving satellite communication and integration of remotely piloted aircraft in non-segregated airspace, the EU SATCEN supports decision-making processes in CFSP, and in particular the Common Security and Defense Policy (CSDP), through providing satellite imagery and associated analytical products. With regard to formulating space policy, it is primarily managed by the EU Commission (Directorate General for Internal Market, Industry, Entrepreneurship and SMEs) as well as the Security Policy and Space Policy Division at the EEAS, which is headed by EU Special Envoy for Space Francois Rivasseau.

Throughout the past decade, the EU has gradually increased its space-related activities, including the continued development of autonomous global satellite navigation system and Earth observation program, and also adopted its first comprehensive space strategy in 2011.

The most visible EU contribution to space security, however, may be the continual endeavor of the EEAS to create a non-binding international agreement on code of conduct in space. In 2008, responding to a UN call for transparency and confidence building measures in space, the EU has published its first draft of Code of Conduct for Outer Space Activities.

Its main purpose was to create a global norm of responsible behavior in space as well as to pave the way for enhanced international cooperation mechanisms.

After a series of intense multilateral negotiations and subsequent revisions, the document had been brought to the UN last year. Despite a rather large group of like-minded countries that supported the EEAS-led endeavor, conflicting views both of procedural and substantive nature eventually prevented the document from being adopted at the UN level.

The countries that opposed the code, mainly Russia, China and countries of the Non-Aligned Movement, criticized the document for being drafted outside of the UN framework, which offered little room for inclusive debates and influencing its content.

With regard to substance, some countries felt that reference to Article 51 of the UN Charter was unnecessary and could be interpreted as a pretense for possible placement of weapons in outer space. [10].

Although the EU-sponsored Conduct of Conduct did not turn into a global norm, the EU has identified several important lessons in the process that can be incorporated in the future should the EU decide to restart the process with a new initiative.

Indeed, through a growing variety of its space activities and a unique diplomatic network, the EU is uniquely positioned to be in the forefront of global endeavors supporting responsible behavior in space.

3. REFINING EU AMBITION IN SPACE SECURITY

The EU currently maintains a growing fleet of spacecraft through its navigation and Earth observation satellite programs. The Galileo global navigation system is expected to deliver initial services by the end of 2016 and reach full operational capability with 30 satellites in

orbit by 2020. Besides navigation, Galileo will offer several other services, including Public Regulated Service, which will provide encrypted signal for navigation and timing services for government, military and law enforcement units.

The Copernicus remote sensing program also offers several services to the EU and its citizens, including monitoring of land, marine and climate changes and emergency and security services.

From 2016 onwards, however, services offered by Copernicus also include enhanced security tasks such as border and maritime surveillance [3]. The EU will invest more than €12 billion to its space programs, including research and development programs, in the time frame of 2014-2020. [15].

There is no doubt that the EU has a vested interest in space security, both in having access to security services and capabilities enabled by satellites and also in making sure that the European space assets and associated infrastructure are monitored and protected.

The presentation of the EUGS to the European Council in June of this year represents a culmination of the European effort to chart a new course in its foreign and security policy. In order to be a respected and credible actor in a globalized world, the EU needs to be strong and united in its external action, including in relation to global commons.

Following up on the BREXIT referendum, the EU must delve itself into a deep self-reflection and look for a plausible way forward how to ensure that the European integration project endures and thrives in an increasingly contested environment.

Unquestionably, a strong Union needs to have an effective security and defense policy. That is why further implementation of CSDP should be given appropriate political attention.

Apart from the EUGS, the EU has recently adopted several significant documents that touch upon the issue of space security, which include the Joint Commission/EEAS communication on the EU's response to hybrid threats and the European Parliament resolution on space capabilities for security and defense of Europe [16].

Furthermore, coinciding with the Slovak Presidency in the Council of the EU (SK PRES) in the second half of 2016, the EU plans to unveil a new European Space Strategy and a European Defense Action Plan.

Around the same time, ESA plans to adopt its own space security policy [3]. The European Space Strategy will work around three main pillars of EU space policy: integrating space into society and economy, fostering competitive European space sector, and ensuring European autonomy in accessing and using space in a safe and secure environment [17].

It is in the general interest of the EU member states that the strategy is closely aligned with space policies of ESA and that the mutual relationship advances to a new level; however, at this stage of preparations, the modalities of further EU-ESA cooperation remain subject to further bilateral negotiations.

In the realm of security and defense, the strategy should provide a clear outline of EU priorities in utilizing space enabled capabilities and ensuring a robust and resilient space infrastructure.

Within the programs that have already been initiated, GOVSATCOM deserves a sound and stable place in the strategy, since it is a crucial component for implementation of several EU policies, including air traffic management and integration of remotely piloted aircraft into a joint civilian and military airspace.

A new plan should be laid out for existing Copernicus and Galileo programs, with an enhanced role in security and defense, as demanded by the recent European Parliament resolution. One of such initiatives might be the development of higher-resolution sensors for remote sensing satellites under the Copernicus program [16].

Last, yet not the least, the EU should boost its programs to secure an autonomous access to space and work towards the security and sustainability of space activities, including through further development of Space Situational Awareness (SSA) and also by leveraging unique role in multilateral diplomacy to take the lead in establishing a universal regime for responsible behavior in outer space.

Whereas space debris remains the most pressing challenge for space security, the EU should continue to invest in its own SSA programs with a particular emphasis on Space Surveillance and Tracking (SST).

Building on the SST framework created in 2014 and the associated consortium of participating countries established in 2015, the EU should further strengthen this initiative and encourage more member states to actively participate in the consortium.

The prospective benefit of SST data sharing with international partners will be of tremendous added value to the EU, for instance during multilateral negotiations in the area of security and defense.

Since responsible behavior in outer space remains a long-term challenge for space security, the EU could revive its effort to establish an international code of conduct in space.

Although the previous initiative did not come to fruition, when the EU takes into account lessons learned from the process, it could restart the project with a more inclusive work plan and introduce the first draft at the UN at the earliest opportunity. In any case, such an effort should be fully in line with the ongoing process at the UN Committee for Peaceful Uses of Outer Space (COPUOS) to introduce voluntary long-term sustainability guidelines for outer space activities [18].

4. CONCLUSION

The project of European integration is facing a test of unity and solidarity. With numerous challenges to its internal and external security, the EU needs to strengthen itself internally and reaffirm its international standing as a strong and reliable player capable of an autonomous action.

The recently unveiled EUGS has set an ambitious course for the EU in several policy areas, including outer space. The EU has pledged to further reinforce the autonomy and security of its space-based assets and promote the adoption of a voluntary code of conduct in outer space. Space security represents an ever more pressing challenge, whereas space has become an increasingly congested and contested environment.

Additionally, the changing dynamics in astropolitics, demonstrated by the presentation of U.S. Space Mission Force and the Russian-Chinese-Brazilian co-sponsored UN resolution on no first placement of weapons in outer space, signal the growing likelihood of a security incident in outer space.

Clearly, the EU has a vested interest in space security, whereas space-enabled services form an important part of European economy and contribute to effective implementation of its energy policy, migration, border control as well as domestic and international crisis management. Whereas the EU is currently in the process of drafting a European Space Strategy, it should take the opportunity to take stock of its existing space programs and lay out a bold and ambition way forward.

Besides reinforcing the existing Copernicus and Galileo programs and further developing the GOVSATCOM concept, the EU should make a significant investment in space security, particularly through boosting its SST capabilities and actively working on the international fora to promote a responsible behavior in outer space that could be eventually

transformed in a voluntary international code of conduct. Through a comprehensive space policy and by reinforcing its autonomy in outer space, the EU will not only strengthen its foreign and security policy, but also reconfirm its relevant role in global affairs.

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