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Space Policy

SPACE SECURITY AND SLOVAKIA

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Outer space has become a contested, congested and competitive domain with an ever growing importance to life on Earth. Recently, an increasing number of new players have entered the space arena. Slovakia has also stepped up its space related activities. In March 2013, it declared its interest to become a member of European Space Agency (ESA) by 2020. Increased involvement in space sector will bring new opportunities and responsibilities for Slovakia. Is Slovakia ready to address these challenges?

Framework of current Slovak space activities comprises of operating satellites, constructing satellite parts, participating in space diplomacy, and most recently declaring interest to join ESA.

During the last quarter of 20th century Czechoslovakia operated its own series of satellites MAGION and built parts of some Soviet satellites. In 1999, the first and only Slovak astronaut, Ivan Bella stayed for 6 days on Mir station and performed various scientific tasks. Most recently, the Slovak Organization for Space Activities, a Slovak NGO, has become a leader in developing the first Slovak satellite skCube, which could be launched by 2016.

Smaller states have limited financial capability for extensive space research. Several European countries created ESA to be able to perform larger projects. Slovakia is aware of this organization and its activities and is already in the accession process, expected to become a full member by 2020. One may ask what kinds of benefits would membership in such organization bring. Denmark is very good example in this regard, where for every 1 million € invested in ESA contracts Danish companies earned 4,5 million € in revenue.

Furthermore, the membership in ESA could e.g. start up Slovak space industry (which is qualified high-tech industry that Slovakia currently lacks) or it could have stimulating effect on the level of science and research in Slovakia. By its mechanism, ESA encourages private companies to build up multinational consortia, which then perform ESA-funded projects. With Slovak membership in ESA, a hypothetical Slovak company would be able to participate on these activities, learn know-how of space

research and industry and use it afterwards for its own commercial interests.

Slovakia is an active participant on international forums, that are concerned with the exploration and use of outer space, including the United Nations and its affiliated bodies or the European Union. The most important topics are space security-related. Particularly issues regarding legal regime of space activities are very up-to-date and need to be addressed. As very little attention is given to these issues in Slovakia, despite their importance even to Slovakia, this article is aimed particularly at space security and initiatives aimed at strengthening it.

Space security can be defined as a secure and sustainable access to and use of space and freedom from space-based threats. Based on this definition, various issues can be identified as potential threats to individual states or even to common security. Studying space security is predominantly concerned with the weaponization of space, that means placement of various types of weapons and systems in Earth orbit with capability to destroy or damage (temporarily or permanently) orbital or terrestrial targets and also development and use of weapons capable of destroying orbital targets that are based on Earth or in its atmosphere. Moving on, one must take into account that weaponization of space does not mean the same as its militarization. The latter refers to military-led space programs or to the use of space systems for military purposes. Space has not yet become truly weaponized, but on the other hand, it has been militarized since the inception of space era. The second key issue of space security is growing numbers of space debris and its threat to functional spacecrafts.

Slovakia is currently opposing weaponization of space (United Nations 2013). Although its vote in the United Nations is in accord with most

members of international community, attitude of the most active country in military space sector, the USA, has for a long time been different. Security dimension of space activities is recognized at governmental level in Slovakia. Article 53 of White Paper on Defence of Slovak Republic states: *“Outer space and its use by sophisticated but disruptible infrastructure represent an area of international cooperation as well as rivalry. In case of an increased number of actors with capability to reach Earth Orbit a higher rate of use of space for military purposes is probable.”* (Ministry of Defence of the Slovak Republic 2013).

Several reasons can be found to answer the question why are the issues of space security becoming more and more topical:

1. Weaponization of space is insufficiently codified in international law, which could create loopholes to be exploited¹.
2. Destructive potential of space debris is signified by its constantly growing numbers. What makes it dangerous is that even the smallest parts of space debris could have destructive effect on space assets.
3. Trends in space sector suggest growing importance of space in modern warfare. Militaries have become dependent on space technologies, which may cause space systems to be perceived as suitable targets for destruction in an armed conflict.

Staying concerned with issues of space security is relevant for Slovakia, because Slovakia is

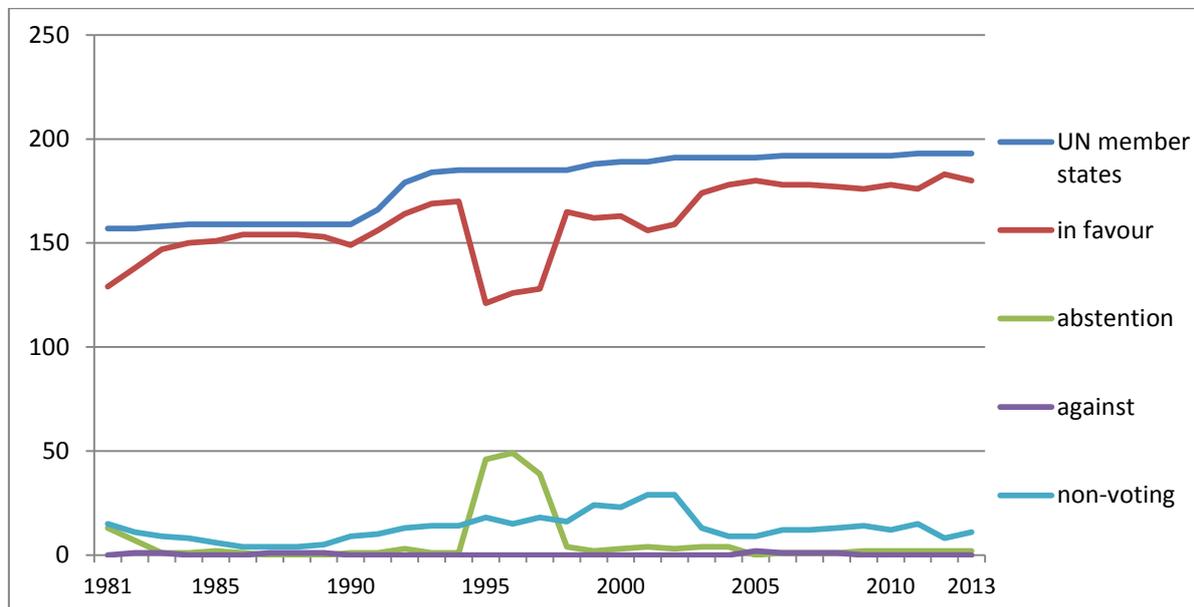
¹Besides Partial Test Ban Treaty of 1963, which bans nuclear tests in outer space, there exists only one legally binding treaty that is truly concerned with weaponization of space, the Outer Space Treaty, which is almost 50 years old (entered into force in 1967) and even has its shortcomings (the treaty prevents only placement of weapons of mass destruction in Earth Orbit).

vulnerable. Due to international nature of services enabled by space assets, only those countries with no dependence on space services would be unharmed in case of space weaponization underway. In the second decade of 21st century, no such countries are present on Earth.

What then seems as a viable option for a mechanism that would foster and advocate principles of space security is an established multilateral space security regime. However, as

the existing regime is inadequate to safeguard principles of space security, multiple actions have been undertaken by members of the international community to improve and reinforce it. Up to this day, none of them can be perceived as truly successful. Given the transboundary nature of space activities and understanding the outer space as a global commons, the United Nations seems as a perfectly competent body for addressing issues regarding space security.

Graph 1 – United Nations General Assembly votes on the PAROS resolution since 1981



Note: Countries that voted against: USA (in 1982, 1983, 1987, 1988, 1989, 2005, 2006, 2007 and 2008), Israel (in 2005)
 Source: United Nation Yearbook 1981 – 2007 and <http://www.un.org/documents/resga.htm>

The UN General Assembly (UNGA) annually adopts a resolution called Prevention of an arms race in outer space (PAROS), which reaffirms principles established by Outer Space Treaty and is aimed, as its name suggests, at preventing an arms race in outer space. Slovakia is annually supporting the resolution². Slovak statement towards outer space affairs at the UN is usually represented by joint statement of all EU

countries. Despite achieving almost unanimous support every year, the resolution also has its weaknesses. UN countries fail each year to achieve approval of one of the most important if not the most important space actor today, the USA. Analyzing the results of the UNGA voting over the past ten years³ shown in Table 1, it could be seen that the USA had even voted against the resolution few times before shifting towards abstention in 2009. The USA justified their vote in

²Slovakia supported the resolution in 1993 and 1994, from 1995 to 1997 it abstained and since 1998 has been supporting PAROS constantly.

³PAROS resolution voting results since first such voting in 1981 are shown in Graph 1.

2008 by claiming that they are just following their policy to oppose proposals they consider to be imposing prohibitions on the use of space for

military and intelligence purposes. What should also be mentioned is that as the UNGA resolution, PAROS remains legally non-binding.

Table 1 - United Nations General Assembly votes on the PAROS resolution since 2004

Year, UNGA session	Voting (in favor - against - abstention)	Countries
2013, 68th	180 - 0 - 2	USA and Israel abstained
2012, 67th	183 - 0 - 2	USA and Israel abstained
2011, 66th	176 - 0 - 2	USA and Israel abstained
2010, 65th	178 - 0 - 2	USA and Israel abstained
2009, 64th	176 - 0 - 2	USA and Israel abstained
2008, 63rd	177 - 1 - 1	USA voted against, Israel abstained
2007, 62nd	178 - 1 - 1	USA voted against, Israel abstained
2006, 61st	178 - 1 - 1	USA voted against, Israel abstained
2005, 60th	180 - 2 - 0	USA and Israel voted against
2004, 59th	178 - 0 - 4	USA, Israel, Palau and Haiti abstained

Source: United Nation Yearbook 1981 – 2007 and <http://www.un.org/documents/resga.htm>

PAROS has been on agenda of the Conference of Disarmament, a formally independent but closely related institution to the UN based in Geneva, since 1982 and has remained one of its four core issues ever since. Russia and China has been very active on this forum throughout the 21st century. In 2008, they submitted draft of the Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT). The main goal was to prevent the weaponization of space through legally binding mechanism. However, the proposal did not meet with wide recognition, particularly from the USA, where both Bush and Obama administrations refused to sign it. Slovakia has not been significantly active in this regard, and endorses joint EU statement, which encourages overall goal of the proposal but finds it insufficient for a legally binding instrument and calls for a need for further revisions. PPWT suffered in its effort from several drawbacks. Despite establishing legally binding

mechanism, the proposal lacked proper verification mechanism. Furthermore, no attention was given to banning ground based weapons with ASAT capability, which would in result not prevent weaponization of space. No significant progress has been achieved in adopting PPWT since 2008.

Besides UNGA and CD another UN-related body exists where issues of space security are on the agenda, UN Committee for Peaceful Uses of Outer Space (UNCOPUOS) in Vienna, which is formally a UN body. Out of its activities, the most significant was the adoption of Space Debris Mitigation Guidelines in 2008.

The fact, that Slovakia is an active participant in space security talks can be documented by its membership in both CD and UNCOPUOS (which are institutions of only 65 respectively 74 members). From the UN comes also the most recent activity in the field of space security, which has been establishment of the Group of Governmental Experts on Transparency and

Confidence Building Measures in Outer Space Activities (GGE). The group met at three sessions during 2012 and 2013 and submitted its final report to the UNGA at its 68th session in 2013.

Situation on international scene suggests that adopting a legally binding document may be unfeasible. That's why international community shifted their focus towards non-binding initiatives. Out of them, the International Code of Conduct for Outer Space Activities (CoC) has currently the biggest potential to be universally accepted as a framework for space activities. It was initiated and is still promoted by the European Union, hence it is in essence also Slovak initiative. Originally, draft CoC was introduced in 2008 but as several drawbacks were discovered in the draft, a revised version needed to be prepared, which later occurred in 2010, again in 2012 and finally, the latest version of the draft was released by the EU on September 16, 2013. This latest version does not aspire to become a legally-binding accord, yet a voluntary international instrument aimed at creating "rules of the road" or norms of behavior for space sector. The draft e.g. reaffirms basic principles of space security, promotes peaceful use of outer space, seeks to prevent deliberate destructions of in-orbit space objects, or aims at making states adhere to existing space treaties and share information on space policies (European Union 2013). The CoC is often being labeled as one of the Transparency and Confidence Building Measures (TCBMs). What increases its potential is official support from the USA. This is something new in space security talks, because traditional US approach was always against any arms control agreements, as evidenced by US refusal to both PAROS and PPWT. The fact, that CoC attempts to be rather a TCBM goes with the line of Obama's National Space Policy, where it is stated that the USA will support TCBMs (White House 2010). In

June 2012, the EU officially launched in Vienna a diplomatic process to negotiate the CoC.

As other proposals, the CoC also has its weak spots, e.g. it does not concern with placement of weapons in outer space (one may argue, that if such provision was involved, number of supporters would have been smaller). Assessing the CoC through the lens of political realism indicates that a voluntary instrument serves no real purpose, given its non-binding nature. On the other hand, it has been generally understood that CoC should rather serve as a cornerstone for future endeavors in area of space security regimes, maybe be a kind of a basis for a legally binding document. Besides USA, many other countries have expressed their support towards the CoC, including Canada, Australia or Japan. China, on the contrary, would probably not support the CoC in its current form because they see the draft to be forcing them to disclose too much information about its space sector (Clark 2013). Moreover, a distrust of space security initiatives has been expressed by some developing countries, mainly from the African Union, who consider the CoC in the same way as they considered efforts to reduce carbon emissions worldwide⁴ (de Selding 2013).

Nevertheless, the CoC still looks like the most promising proposal of space security mechanisms. In May 2013, participants from 61 countries attended open-ended consultations on CoC in Kiev and similar open-ended consultations were held in Bangkok in November 2013. The CoC is not flawless, but which of the current proposals is? Should it be adopted, the international community will finally get something new yet

⁴ Concerns about the draft have also been expressed by several Latin American countries, particularly regarding article 4.2., which justifies destructive or damaging actions against outer space objects under certain conditions, e.g. if such measures are undertaken in accordance with the right of self-defence as recognized in the UN Charter.

credible to build upon and depart from in future space security endeavors.

In May 2013, Estonia has become the 41st country to operate a functional satellite by launching ESTCube-1. By 2016, Slovakia could too operate its own satellite skCube, should no serious setbacks occur. This, together with Slovak ambition to become ESA member by 2020, suggests that importance of space activities in Slovakia will be growing, just as it is growing worldwide. Slovakia needs to be well prepared for its enter into the space arena. That involves understanding issues of space security. Weaponization of space and space debris are not the only aspects of space security. Purpose of this paper was, however, not to analyze all of the space security issues today. Overcrowding of orbits, space traffic, radio-frequency interference or even space terrorism are other issues of space security that also have impact on space sector. But what makes space security regimes debate demanding, is that they enable us address all issues of space security at the same time. Slovakia has many options how to act on international scene. Currently, its position is at international forums represented by joint statement of EU countries. Promoting EU's, and therefore indirectly also Slovak effort in the CoC seems like the best option Slovakia currently has. However, there is still place for an increased involvement. More active participation in the CoC

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talks is an interesting opportunity for Slovakia to present itself and build a solid reputation, which could be helpful in years to follow. Furthermore, it would be fruitful for Slovakia to start to specialize and gain expertise in some specific area of space sector. It must not be space security-related, there is a whole set of options in ongoing space-related research. The point is that a special knowledge and expertise in a particular issue brings another added value to Slovak ambitions in space sector and would give Slovakia considerable comparative advantage. Commission for the Participation of the Slovak Republic on Cooperation with the ESA, an advisory body to the Slovak Ministry of Education, Science, Research and Sport which is responsible for cooperation with the ESA is currently working on a first Slovak space strategy which will also include recommendations for areas of specialization. It is in the best Slovak interest that all these efforts will ultimately turn up satisfying. After officially declaring interest to enter second of the three phases of ESA accession process, the Program for European Cooperating States (PECS) the current trends in Slovakia seems positive. Let's hope it will continue.

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