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The Future of European Astropolitics

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It is my pleasure to introduce the first piece in a the Deutsch Security Square new series of occasional exchanges on topical security issues of the day. In this pioneering conversation, Nikola Schmidt and Bohumil Dobos, both with the Faculty of Social Sciences, Charles University discuss the future of European astropolitics. The exchange was stimulated by Dobos' article 'Geopolitics of the Moon: A European Perspective' published by Astropolitics 13(2015):1. Schmidt challenges Dobos' case for desirability of 'colonising' the Moon to prevent access denial of space exploration by potentially hostile actors by pointing to several political, legal and technical issues that problematise this position, leading to dialectical development of Dobos' argument and situating it in a broader context of EU's strategy.

Ondrej Ditrych, D.SQ Coordinator

Nikola Schmidt (NS): Bohumil Dobos introduced his idea how to proceed deeper to space from our currently inhabited lowearth orbit. His core idea is that 'European Union (EU) and the European Space Agency (ESA) should more closely examine the possibility of lunar settlement.' However, this idea has several shortcomings that should be discussed in more detail.

The first four arguments I would like to propose here for further consideration are more related to the political foundation of Europe and the current global political environment *per se*. First, colonization is about political control over territory; the international law simply bans any missions that might be understood as a colonization of any other celestial bodies. Dobos argues that the energy security of the European Union should be taken seriously and that EU should take the plain geopolitical position to become more energy independent on unstable regions to the East by colonizing Moon. As the idea might looks idealistically and understandably from the perspective of energy security, the basic problem lies lies in that it is simply not politically defensible. Second, the EU itself is not currently in a political state to undertake such a colonial activity as it is completely against its ethical and normative foundations. Third, ESA has recently announced (see here and here) an intention to go to the Moon; however, ESA would never claim that decision as a geopolitical one despite the fact that ESA's mission is to deliver benefits to its citizens (but peacefully rather than by colonial missions). ESA is a scientific and explorative agency with a mission dedicated to space exploration with spin-offs back on Earth. ESA is not a

mining company seeking for a permission from a higher authority. There is no such authority and the fact that companies are willing to mine asteroids rises questions whether they can or cannot (a phrase that 'space belongs to humankind' can be explained in different ways). Certainly, commercial companies (namely Bigellow Aerospace) keenly seek to find out whether and how to land on and use celestial bodies; the 'trade follows flag' concept is then still <u>vital</u>, but according to current international law they might need to do that under the authority of the launching state and here we have to mention Moon Treaty that bans altering the environment of or taking over other celestial bodies. It was not signed by the USA (where Bigellow Aerospace launched the debate), but it was signed by France and ratified by Belgium or the Netherlands. Fourth, Europe has been doing maximum to make states interdependent to avoid war and promote peace. In that perspective, the proposed policy goes precisely against such interdependence idea and as such cannot be viable for the EU.

Further arguments that should be important for further consideration are related to planetary science knowledge and engineering potentialities. First, we have heard several times about existence and usability of Helium 3 as a reason why to go. If we put side the fact that fusion technology has never been proven to be effective, mere existence of Helium 3 cannot a good enough reason. Mission to mine something on the Moon for further energy usage back on Earth (rather than in space for the purposes of further exploration) is far away from the first landing, building habitat, its effective maintenance and successful long-term inhabitation with people. While robots may establish effective mining mission on the Moon, the effectiveness would be far closer to experiment rather than serious mining and would last for decades. There are issues such as radiation that is not so serious in low-earth orbit, but extremely important on the Moon. Supernovae exploded in our galaxy just days after one Apollo mission successful landed. If this had happened during astronauts presence on the Moon, they would have been probably dead due to irradiation. If we come back to the question of Helium 3, the effectiveness of its mining is a necessity for any favourable evaluation. Mere presence is not enough. Dobos' argument further concerns titanium and platinum (without wider elaboration). However, in this case it is much reasonable to redirect an asteroid to near-earth or Moon orbit and mine it there using robotic infrastructure. Asteroids are full of these materials and one redirection would provide us with decades of supply.

Additionally, and here I would like to elaborate on my core argument, developing a capability to redirect asteroids provide for planetary defence against potential extinction events caused by their impact, which is of growing interest for NASA (Near Earth Objects (NEO) project has doubled its budget last year and is now ten times more in comparison with the year decade ago), and ESA as well and will probably soon become a global collaboration project thanks to broad securitization efforts of many experts (B612 foundation, Asteroid Day, Asteroid Society etc.). From that perspective, the policy to go for asteroids has a security impact on a global scale, and it is a positive impact that stands in contrast to the violation of Outer Space Treaty by colonization of the Moon and finally, NEO is a current hot program of NASA.

Adding to this argument and challenging the celebrated Dolman's geopolitical ideas I would like here, with due respect to my colleague, strongly disagree with such geopolitical thinking as an obsolete and dangerous when translated into real policy recommendations. If Russia is an unstable and unpredictable supplier, EU's focusing on super-technologies deployment on the Moon with an opendly declared to mine there and become more independent will surely make Russia respond. If we should proceed with the idea of becoming independent, it should be a step-by-step process rather than anything that will directly provoke Russia, especially by development of technology that the Kremlin sees as a threat because it violates the OST. This move is certain to provoke deployment of weapons systems Dobos is concerned about.

Dobos also talks about asteroid mining by private companies which is exactly the kind of events we have observed over the last couple years. We can mention Planetary Resources (which deployed their first mining test spacecraft in July 2014) as an example. However, their interest is pure business that is for sure well calculated and viable, as it will lower NASA's expenditures on currently planned <u>missions</u>; it is certainly not Dolman's domination of space. Here we come to an interesting point. Private companies can land and operate rovers; no treaty bans them from doing that as companies are not going to

claim the territory as theirs and launching states of rockets that brought these rovers on the Moon will be silent in this case. Such a development might lead to a spaceport as Dobos proposes, one which however would operated by a private company, which is certainly in the interest of the EU as it will seek not to be associated with anything resembling colonization.

In the end, I would like to mention that the debate over the use of space for economic development, scientific space exploration or any other space mission as near-future objectives for political thinking is extremely important. We can hear opinion sthat the Western world loses the sense of its existence and citizens are becoming tired with politics without objectives. Any kind of endeavor involving space is great, but it has to be elaborated sensitively to current global political environment without obsolete geopolitical thinking.

Bohumil Dobos (BD): In my article published in Astropolitics, I presented an idea that the EU and ESA should become more active in the pursuit of lunar settlement. For the analysis of the issue I've chosen the geopolitical framework grounded in the works of French geopoliticians or described as meta-geopolitics by N. R. F. Al-Rodham. This approach widens the scope of traditional geographically deterministic approach that was applied by Dolman with additional factors of state power as social and health issues, diplomatic position, environmental concerns etc. without disregarding traditional realist power basis located in military and economic strength. In my argument I point out the relative backwardness of the European attempts to reach the Moon especially in the context of the Chinese pursuit of lunar landing. My argument for more active position in development of lunar capabilities is based on two assumptions. The first relates mainly to Europe's basic terrestrial energetic needs and is nested in a principle of the energy security. Europe as a large energy consumer is dependent on highly volatile regions of Russia and the Middle East for its energy security with deteriorating domestic ability to obtain new energy resources without huge environmental risks. Despite the fact that the energy fusion utility has not yet been proven I argue that this is mainly case of under-financing of the research than impossibility of the development of the viable fusion reactor - this conviction is based on opinions of experts dealing with the issue as I am not a physicist myself. The second argument is based on considerations relating to space access and utilization. Space as a highly volatile environment holds many critical structures that are very fragile. Attempt of domination by any nation may render the use of space impossible. Hence prevention of the domination of space by any nation must be Europe's primary geopolitical goal in the outer space which also contains the use of the Moon. If a hostile nation establishes unilaterally a lunar colony it can, due to astro-mechanical realities, successfully prevent others from reaching the Moon or start a space conflict that might render the whole environment inaccessible. The Moon can also become important commercial target in many areas containing mining, or tourism. Undeniable attractiveness of a lunar base as a scientific centre, repair dock for the satellites orbiting Earth, or as a space-dock is another reason why the Moon is such an important geopolitical target. My recommendations are based on the cooperative and peaceful nature of the European project which reflects itself in the way of achieving its geopolitical goals - it primarily disregards traditional power tools and hides its pursuit of geopolitical goals in terms of either development or self-defence. Europe should become more active in the lunar settlement activities as it must aim to diffuse growing Sino-U.S. tensions that may project themselves into the next space race which would become even more heated by the possible entrance of an unpredictable Russia. European (geo)politics is primarily peaceful and cooperative and based in economic and soft power so it must aim at the collaboration with other actors in order to reproduce the success of the ISS collaboration as it would almost certainly lose in a military confrontation. Second, the economic utilization of the lunar resources will in European case be probably spurred by commercial actors. Therefore, Europe, in order to preserve its interests, should aim at creation of environment that will be friendly towards the companies that aim at the utilization of the space resources as much of these companies will be based in Europe and thus enhance the European economic and soft power as a basis of the European geopolitical standing.

My colleague presented several arguments challenging this perspective and I feel the need to clarify some points and oppose some of his criticism. The EU's political nature is indeed unique and its collaborative concept prevents it to some degree from the unilateral moves towards achievement of its political goals. However, we might see more a internationally active EU in foreign and security as well as energy policies centralized on the supranational level as the Union copes with

Russian destabilizing tendencies in the Eastern Europe though this is opposed by the right-wing populist parties and movements across the Europe. Ethical considerations are mainly based on perceptions and these can be combined with the strategic goals of the EU so the lunar colonization might be primarily explained as a civilian commercial project - similar to Galileo – while holding a great strategic potential. My argument does not aim at proposing of unilateral action but rather at participation on the collaborative projects where the main geopolitical strengths of the European soft power would be utilized and Europe's interests would be protected by both having direct access to any potential resources, research and developmental advantages, and by preventing dangerous space conflict. The third argument is based on the nature of ESA and its stated goals. ESA as a non-EU institution does not hold any traditional geopolitical tools of power and surely justifies its goals as non-aggressive and scientific (as is case in most of the space missions around the globe) but its projects often have dual-use application - e.g. Galileo, or GMES. Geopolitical interests are not necessarily connected to the use of hard power and lunar colonization as the pursuit of the geopolitical goal does not necessarily have to be an aggressive act. Furthermore, lunar settlement might be conducted by the EU as it established its own authority over the space issues under the Lisbon Treaty. My argument also stands against the understanding of geopolitics as opposed to the interdependence. European geopolitical position is greatly increased in case of economic interdependence as it is probably the most suited actor to operate in the world of interdependence and its ultimate goal is therefore naturally cooperative space utilization. Its geopolitical goal is not self-armament but disarmament of the others - it, however, must be strategically independent (in military and diplomatic affairs) from these other actors in order to promote its goals (once again a case of strategic importance of Galileo). The cooperative nature of the European project is a highly strategic choice made on the basis of the capabilities of the EU, as well as the perceptions dominant in the European region. Cooperation of the other actors can be ensured only if these actors perceive the collaborative effort as the advantageous over domestic development of the national lunar programme. For this Europe must be a strong actor that is able to offer technical expertise, capabilities or other goods otherwise hardly obtainable. Europe's geopolitical strengths are based on its soft-power but this does not mean that this soft-power basis will not be challenged by actors like Russia and China as they perceive international politics and geopolitics in a more traditional sense.

I agree with my colleague that establishment of a space colony is a difficult task and I am fully aware of the space environmental issues pointed to in the reply to my article. This is another reason why the EU/ESA must become fully dedicated to the lunar settlement as the development of capabilities and technologies will be a difficult task and the late-runners might be punished by exclusion. Here I again argue that the geopolitical goals of Europe in the outer space would be best achieved by collaboration with other actors interested in the lunar settlement – most importantly, given the nature of the current international politics, NASA. Europe should, and must, participate in the research and development of the lunar habitation as its economy will greatly profit from such endeavor and it would become an essential actor in space politics that would in return help it to better shape the outer space geopolitical 'space' to achieve its geopolitical goals of peaceful utilization based on economic competition and interconnectedness thus strengthening its international position. Furthermore, I do not dispute the fact that asteroid mission is an important task from economic, security, and scientific point of view but this mission, if not only scientific and technological training as the proposed NASA asteroid capture mission, would be best conducted from the surface of the Moon. Establishment of the stable lunar settlement would greatly enhance the European attempts to reach asteroids which might turn to have great economic or security benefits in terms of deflecting potentially dangerous asteroids.

I elaborated on my theoretical background at the beginning but I must nevertheless react to the critique presented by my colleague in the paragraph challenging the geopolitical thinking. In the wake of current crisis in Eastern Europe and aggressive Russian behavior that is clearly visible ever since the 2008 incursion into Georgia, the EU will seek to remain as independent from Russia as possible even without the use of space resources. In the energy security context, this means mainly importing the LNG from the U.S. Decreasing tensions with its large nuclear neighbour is certainly crucial strategic task but this cannot leave the EU paralyzed as the perceived weakness would be punished by further Russian aggression. As for the argument that Russia would see the colonization of the Moon with the intention of obtaining en-

ergy independence as a threat, I must repeat that this is happening in relation to the development of the LNG capacity anyways and the lunar capacity will not bring about a more substantial response than a closer alliance of the EU with the U.S., especially if it is pursued in cooperative and commercial manner. The issue of lunar development based on the private initiative is also interesting and I share my colleague's affection for the larger impact of the private companies in the utilization of the outer space. However, the current legal setting is very confusing and unclear so the private companies will not pursue such a challenging task without support from political entities, be it nation states or the EU. The Union, by its active position and by placing itself as an important lunar actor, would act as an enabler of the further private space endeavours that would greatly enhance humanity space utilization. It is in EU's and the U.S.' interest to promote more commercially friendly legal environment as opposed to the centralized Russian and Chinese space programmes.

To sum up, the primary geopolitical goals of the EU related to the lunar settlement are currently energy independence and prevention of the military conflict in the outer space region. The EU's geopolitical goals will be guaranteed only through a cooperative effort to reach the Moon and establishing a settlement there, thus preventing other actors from dominating it. This colony might be a shared project or there might be a system of several smaller bases each operated by a different actor. Primary collaboration should be with NASA as the logically closest geopolitical ally with similar need for enhancement of private space capabilities. The EU, however, holds a long history of space collaboration with Russia and China as well and it should aim at diffusing the competition between the U.S. and China that might in its military outlook render the outer space unusable (as suggested by the 2007 Chinese ASAT test). The Union must not become a late-comer as it would be unable to benefit from the lunar colonization, its independence in pursuit of its terrestrial and space interests would decrease, and the overall international environment would become more hostile thus opposing basic European geopolitical considerations and interests. An active role of the EU does not mean attempt to dominate but rather prevention of dominance by others.

NS: In my reaction to Dobos's article in the *Astropolitics* journal I tried to analyze several of his arguments and propose some new ones that might be relevant to the whole issue. Nevertheless, in the answer to my initial response, I find two currents of thoughts to which I feel obliged to respond again. First, Dobos significantly altered some of his first arguments to take into consideration my criticism; however, without acknowledging that these points are speaking directly against his argumentation. Second, the geopolitical propositions in the article sounds like a hard-power recommendation building on Dolman's geopolitics of space dominance, while the response is much more cooperatively oriented. Additionally, some of the cooperatively looking proposals are certainly not cooperative in their nature and thus the whole geopolitical way of thinking is again conflict-prone and not promoting peace on the global scale and is still obsolete as I argued in my first response. Let me elaborate first on one minor point now, and later I will come back to these two critical ones in detail.

It seems that we have to stay at the level of policy without proper scientific background in the planetary science; however, I think that I should draw the attention again on the fact that argumentation about the resources such as Helium 3 were not appropriately elaborated in the original article. Without knowing the effectiveness of Helium 3 mining on the Moon there is no reason to talk about a (huge) fusion reactor research and construction on Earth (and in space for sure). In that perspective Helium 3 is not a current solution for EU energy security while I may admit that the future might rest in this resource. For now, whole stations on the Moon would work on RTG (radioisotope thermal generators) combined with solar energy. Both sources are well-developed and reliable technologies; an extremely important variable during any kind of space related mission decisions. In that perspective proposing policy in space related to under-researched, non-existent and hard-to-delevop technology does not make sense. There has been recently a success at the Massachusetts Institute of Technology with a small, almost mobile fusion reactor. However, it is still a <u>concept</u>. Another completely neglected point is especially the risk of irradiation and other still unresolved risks to human residency in space (low gravity, lost of orientation, nausea etc.). There have been several technological methods studied regarding how to reflect space radiation (water layer, synthetic algae special <u>nano-fabric or electromagnetic shield</u>), but none is currently fully developed and reliable. Without these technologies, no settlement is possible and we really have to think realistically when making these policy proposals as strong policy visions such as the one by president Bush in 2004 calling for human presence beyond Low Earth Orbit may hinder real efforts of scientists to pursue our starry visions for humankind.

Now, let me come back to my main problems that I see in my colleague's argument. The original article argues directly and repeatedly for a Moon settlement. Although I took into consideration some clarification of my colleague such as stronger focus on cooperation, collaboration or EU values etc., using words such as *settlement* or *colonization* invokes an assertive, non-collaborative approach. Dobos uses a case of International Space Station (ISS). However, ISS was finally (and expediently) built together with Russia (unfortunately China was many times refused despite Beijing's interest to become a partner). Even though Russia constructed their modules separately from the others, it had to design, deliver and deploy them in a globally cooperative manner. And here is the point: Russia was involved, China was not and China is now seen as an adversary that has to be beaten in a new space race for a colonization of Moon? We already have lessons learned thanks to the history that tell us not to pursue such a selective collaborative missions based on references to a 'logically closest geopolitical ally'. Charlie Bolden, current administrator of NASA, personally spoken at *Space Studies Program 2015* Athens, Ohio about a Mars mission and the most important statement he mentioned was to never exclude others: 'Wanna go fast? Go alone. Wanna go far? Go together.'

The original article lacks a concept of 'soft power' whereas the reaction on my criticism it is mentioned frequently. It contains collaborative proposals, but at the level of pure hard-power geopolitical thinking leading to selective cooperation and thus conflict with those excluded. If the traditional 'cooperative and peaceful nature' of the European union is being referred to, it should perhaps be related to proposals of cooperation in something like a 'Moon science and resource habitat' for anyone willing (nations or companies) to participate rather then a focus on diffusion of Sino-U.S. tensions by establishing selective Moon colonization efforts and excluding those who are seen as an adversary. Additionally, the EU has, in the past, supported companies through artificial market alteration/creation and direct subsidies. However, there is no market on the Moon yet to subsidy. ESA is a scientific actor. This actor cannot 'put itself as an important actor on Moon' to support companies. The global mission to Mars is unachievable before building a Moon village, according to the ESA director. Such village might motivate companies to mine around it, but mining for energy security on Earth is much more remote and perhaps not realizable at all. In comparison to a Planetary Resources business model (that applies to the ESA visions of the Moon village as well), supporting Earth is much more of a wishful thinking. NASA knows what resources they need for their currently planned scientific missions in space and Planetary Resources are prepared to lower their expenditures by delivering resources to orbit from outer space. We have to make a distinction between public spending supporting an emerging market where the emergence play into the cards of scientific objectives and to the political authority that provides subsidies; and building an imperial colony by a mission comparable to one of Francisco Pizarro in 16th century to South America promising full fleet of gold to the gueen. I still see this geopolitical way of thinking in my colleague's argumentation despite the clarification and putting a significant emphasis to cooperation which was not present in the original article.

I appreciate the argument that the goal of EU is not self-armament, but disarmament of the others. However, what is *geopolitical* on this argument? I see it as a pure political position of the EU based on its normative nature as I argued before, and certainly not related to geopolitical taking over 'suitable sites' on the Moon which are scarce,. Here we see again the contradiction. What might have created this confusion is perhaps comparing Galileo and the Moon settlement. Galileo is partly civilian and partly military; and it is orbital. According to the Outer Space Treaty, these projects should therefore be treated differently. We cannot settle the Moon (I would prefer the above-used term 'science and resource habitat') and try to hide our strategic territorial interest from those who are excluded from such enterprise.

Finally, I would like to state that I like the logic of becoming independent on unpredictable countries, becoming space faring species, building habitats on other celestial bodies and pursue science for solar system exploration. I see a significant place for our security strategy in outer space collaborative exploration and utilization. However, I would like to support statements such as those of Joan-Johnson Freese that being an inspiration for others can do much more for our own security than isolating them. On July 14, 2015 scientists concluded fifty-three years of solar system planet exploration by a Pluto fly-by with New Horizon spacecraft and we still find more and more pieces of knowledge there; more that clarify our own place in the space. We must be able to do this as the humankind, not as selective nations based on criteria such as who is 'logically' closer for cooperation. This policy produces enemies and problems in space. Let us not forget the China anti-satellite weapon test (2007) created up to 25% of *all* current orbital debris. Recent moves, or perhaps more attempts, by president Putin to disassemble Russian modules from the ISS and the abortion of that idea in forty-eight hourds should prove us how these extraordinary outer space challenges might put down delusional power-oriented leaders and finally unite us all. To achieve that and become a spacefaring species, we certainly do not need Dolman's aggressive geopolitics.

BD: In my final response I do not wish to elaborate at length the points that were discussed before, but to clarify some of the points I feel have been misunderstood by my colleague or need short explanation. First, the original article is not fully based on Dolman's work as I use his ideas only in one part dealing with the possibility of access denial with a quote: 'Stationing weapon systems on the Moon or using the Moon as a base for maintenance of the orbital weapon systems by a hostile space power can lead to the future inability of Europeans to even reach the Moon. Due to this issue, it is important to actively participate in space utilization and to support comprehensive space law initiatives so the Moon remains, for the future, opened for a broader spectrum of interested actors.' I feel that this line of argumentation is fully in accord with my reply. The second point relates to technical issues. I do believe that the issue of utilization of fusion energy is closely connected to the underfinancing of the research that is justified by the lack of knowledge about the potential effectiveness of Helium 3. Research on this topic is, however, not made due to the lack of research progress in fusion energy development. I do not argue that the beginning of the lunar colonization will not be fuelled by other means of obtaining electrical power (in case of pole settlements mainly solar power). This is the reason why I call for the focus on the polar region. The issues of environmental hazards of the space settlements are, for sure, grave and must be addressed but as I specified in my reply, Europe must be one of the initiators of the research and development in the field as the attempts of the U.S. – if taken unilaterally – or China might place the European lunar project on the side track.

I certainly call for lunar settlement and I call for cooperative manner of this settlement from both technological and strategic perspective. My point on China concerns unilateral Chinese (or Russian) action. In the case that the geopolitical tensions on the Earth remain, a cooperative project might not be possible (despite the fact that space projects tend to be far less conflicting than others). NASA is logically the closest geopolitical ally of the EU/ESA and will be the first to start the collaboration with. I do not call for exclusion of any actor but for prevention of dominance by other actors (here I return to the Dolman's argument about the possibility of aggressive space utilization) that would strongly harm European interest. As for the soft-power argument, Europe has its undeniable geopolitical interests and means to achieve them. Unlike traditional great geopolitical actors, the EU bases its influence on soft power and interconnectedness. This, however, is a strategic calculation based on its capabilities. ESA, for sure, presents itself as a purely scientific organization but it develops – in cooperation with the EU – space assets having military use and great strategic potential, Galileo and GMES. To clarify my argument, Europe surely acts in geopolitical way but to achieve its goals it does not operate with modern system of hard power (despite the fact that it develops strategic capabilities not to be left too much behind) but rather focuses on post-modern means of power projection: economy, soft power, interconnectedness, or technological development. The core of geopolitical strategy is still in place but the means are more suited for the 21st century geopolitics as opposed to the traditional ones focusing almost solely on military power.

If I follow line of thinking, the strategic choice of using soft power with limited military capabilities is fully compatible with a project of shared settlement on the surface of the Moon. By having permanent settlement on the lunar surface, Europe would gain access to all the technological, scientific, and economic resources and developments that would follow the establish-

ment of the lunar settlement. While if the Europeans opt out of the lunar settlement scheme and some of the other actors build their permanent structures on these valuable locations unilaterally, Europe would hardly participate on the further development (if it would not be excluded at all) and would be unable to achieve energy independence it so desperately seeks and which will be ever harder to achieve as the terrestrial energy resources are drained out. The case of legality of space settlements is, as to my knowledge, unsettled as the OST only forbids states to claim sovereignty over the celestial bodies and the interpretations differ. The much larger challenge for the European space legal efforts is, in my opinion, a comprehensive ban on space weapons and establishment of a legal framework for the operation of the non-state actors in the outer space.

In the end I must notice that our conclusions are very similar. I also see a great potential in the development of the shared space programmes as another step towards enlargement of the post-modern international system. As I tried to point out I do not call for isolation. But my argumentation is based in basic strategic thinking that calls for engagement, verification, and must take into account possible hostile motivations of the other actors and cannot leave itself blind or defenceless. Leadership by example, while certainly a noble idea that fully fits the stated European strategy and goals, is worthless if one is unable to make a stand and is not taken seriously. We do not need aggressive space policy but we must be ready and able to prevent it if applied by others.