



Strong NATO through strong Europe: Space and lasers as possible Czech contribution

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Recommendations

→ NATO **faces two long-term challenges**. Firstly, its political cohesion has been weakened by an internal clash of values between the two sides of the Atlantic which has been further accelerated by the steps and statements of President Trump. Secondly, the declining technological edge, ineffective military mobility and continuing disbalance between American and European military capabilities are **diminishing the credibility of NATO's deterrence policy**.

→ The resilience of Transatlantic relations would best be **bolstered by intensifying cooperation between NATO and the European Union**. Primarily, focus should be given to **improving military mobility and developing European military capabilities based on a strong and consolidated European industrial and technological base**.

→ NATO's deterrence policy is also being challenged by evolving Russian anti-access/area denial (A2/AD) capabilities. In the future, credible **deterrence of Russia will require space and laser capabilities for mitigation**.

→ Despite the Czech Republic's economic boom and an unprecedented deterioration of Europe's security environment, the lack of political will prevents the fulfillment of pledges to increase defense expenditures or military capabilities. The Czech Republic should therefore **seek a way to bring added value by contributing to NATO's structural problems through investments into dual-use space and laser capabilities**.

→ **The Czech Republic can improve NATO's deterrence policy, European technological strength and the EU-NATO relationship** and at the same time foster its **own economic, scientific and innovative development by investing in and utilizing its unique laser and space capacities**.

The NATO summit of July 2018 was supposed to formally conclude the successful adaptation of the Alliance launched at the Wales summit in 2014 after Russia's annexation of Crimea. However, it has also highlighted many long-term structural problems of NATO. The North Atlantic Alliance maintained a strategic and technological advantage over its adversaries throughout the Cold War that was based on the overlapping of core national interests between its members and the economic as well as the technological dominance of the West. Nowadays, both these aspects are under increasing pressure.

The unavoidable value clash in the Transatlantic bond has resurfaced in 2018. Donald Trump has turned increasingly more towards unilateralism, which in its effect undermines the multilateral world order which the United States helped to build after World War II. These steps have added to the growing ambition of EU member states to strengthen the Union's defense and industrial cooperation with the ultimate goal of reaching strategic autonomy. While Washington supports improvements in poor European defense capabilities, attempts at a consolidation of the European defense industrial base and its large EU-funding are rather perceived by the US as a danger to its arms sales. Further, the competition amongst American and European arms industries is deepening the asymmetry between the two sides



of the Atlantic¹ and in its effect weakening NATO. Such a phenomenon plays in favor of Russia, as NATO's strategic rival in Europe, as well as China, as Washington's strategic rival in Asia.

To bolster Transatlantic relations and renew the technological prowess of the Alliance and its deterrence capability, NATO should focus on two areas. Firstly, improving military mobility that would allow for faster transportation of follow-up forces across the continent at short-notice and demonstrate effective EU-NATO cooperation. However, considering the continuing development of Russia's area denial capabilities, upgrading military mobility alone will not improve the credibility of the deterrence policy. It should be complemented by incorporating space and laser technologies to increase deterrence and finding an equitable relationship between the US and European defense industries. **The Czech Republic can contribute to the strengthening of Transatlantic relations and NATO's deterrence policy by utilizing the potential of its ELI Beams laser center and space capacities as the home of the EU's Global European Satellite Systems Agency.** This can be an opportunity for Prague to become a valuable ally as it remains unwilling to increase its defense spending to 2% despite unprecedented economic growth and the dramatic deterioration of Europe's security environment.

Value Clash within the Alliance

In December 2017 the Trump administration released the new National Security Strategy.² It molded Trump's slogan America First and unclear campaign statements on international politics into a new version of US neoconservative foreign policy, turning away from counter-terrorism to geopolitical rivalry. The strategy could be viewed as a victory of traditional Republicans in the White House over radicals such as Sebastian Gorka, Steve Bannon or Steve Miller. However, with the entrance of Mike Pompeo and John Bolton as Secretary of State and National Security Advisor, respectively, the foreign policy constellation in Washington shifted. The results were, amongst others, heightened Transatlantic tensions over the US withdrawal from the international Iran nuclear agreement and the introduction of tariffs on metals imports from the EU.

For the European Union, which is founded on multilateralism, diplomacy and soft power, a return to the competition of great power is unacceptable. The turn away from multilateralism by the US has also brought a preference by the United States to deal with European countries on a bilateral basis. Some European members, like Poland or Romania, have capitalized on this bilateralization. Yet, it ultimately leaves the US, as the world superpower, in a better position with more leverage against every country. Even coordinated diplomatic bilateral efforts by EU member states failed to persuade the US to avoid scrapping the Iran deal. Furthermore, EU foreign policy unity has also been dented by deviations of some Central and Eastern European countries regarding their positions on Iran and Israel.³ Despite all these developments, Trump's Transatlantic policy has served as a

1 Sylvie Matelly, Christian Mölling, and Trevor Taylor. "The Future of Transatlantic Strategic Superiority" GMFUS, 27. 4. 2018, <http://www.gmfus.org/publications/future-transatlantic-strategicsuperiority>.

2 United States. "The national security strategy of the United States of America". 18. 12. 2017, <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>

3 Poland and Romania demonstrated doubts about whether they would support the EU's tough stance on US withdrawal from the Iran nuclear deal, while the Czech Republic and Romania signalled they could move their embassies in Israel to Jerusalem. See: Turcanu, Mihai. Poland asks EU to be flexible on US withdrawal from Iranian deal. 25. 8. 2018. European Security Journal,



significant catalyst for European ambitions to build strategic autonomy, whose foundation had already been laid by the low interest in Europe from the Obama administration.

Defense Industry Rivalry

A key tool for building the EU's strategic autonomy and increasing the technological strength of its industrial base is the European Defense Fund (EDF). The first Transatlantic clash over the fund resurfaced at the beginning of 2018 when it became clear that third countries outside of the EU will not be eligible for the financing. One of the main benefits of NATO for the US since the end of the Cold War has been arms sales to Europe in the name of interoperability and security guarantees. The EDF, as well as an autonomous European industrial base, are undeniably seen as a threat to this model. In February 2018, the NATO mini Summit was marked by a series of statements from the US administration that challenged EU-NATO synergy based on these concerns.⁴

The United States applies an offset policy that does not allow any participation of third countries, not even other NATO members. Military technology transfers are not permitted even in the case of the acquisition of a US firm by a European one, unlike the reverse scenario in which an American company would acquire a European one.⁵ The outcome is asymmetry in technology transfers between the US and the EU. Even when US equipment is purchased by a European partner it cannot be independently used due to a plethora of license and operational restrictions, especially regarding the latest technology. For some Eastern European countries like Romania or Poland, the Buy American approach represents an important tool for ensuring security guarantees by winning extra political points in the eyes of the United States. This occurs despite the prohibition of such offsets in other fields within the EU's single market. Such a set up represents a critical obstacle for adopting and executing a joint EU industrial policy that would systematically develop the European defense industry as a base for the EU's strategic autonomy.

The outcome of this situation is demonstrated by the continuing inequality of technological capacities between the US and its European allies. Europe lags in innovation and development behind its Asian and American counterparts⁶ as the technological deficit of European armies expands.⁷ The diverging technological

<https://www.esjnews.com/poland-iran-nucleardeal>; Stropnický: Přesun ambasády nesmíme uspěchat, reakce v Gaze je prudká. iDnes.cz, 16. 5. 2018, https://zpravy.idnes.cz/stropnický-izrael-ambasada-jeruzalem-velvyslanectvi-presun-ptp/domaci.aspx?c=A180516_095722_domaci_jj; Turcanu, Mihai. Romania's President asks PM to resign over Israel embassy row. European Security Journal, 27. 4. 2018, <https://www.esjnews.com/romania-israel-embassy-row>.

⁴ Petr Boháček, "EU-NATO Tensions Point to Transatlantic Troubles", 19. 2. 2018, <https://www.esjnews.com/eu-nato-tensions-transatlantic-troubles>. Belin, Jean, Keith Hartley, Sophie Lefeez, Hilmar Linnenkamp, Martin Lundmark, Helene Masson, Jean-Pierre Maulny, and Alessandro R. Ungaro. "Defence Industrial Links Between Eu and Us," ARES, september 2017.

⁵ Belin, Jean, Keith Hartley, Sophie Lefeez, Hilmar Linnenkamp, Martin Lundmark, Helene Masson, Jean-Pierre Maulny, and Alessandro R. Ungaro. "Defence Industrial Links Between Eu and Us," ARES, september 2017.

⁶ R&D spending in the EU in 2006-2016 rose from 1.76% to 2.03% GDP, significantly behind the US (2.79%) or China (2.1%). The Czech Republic lags behind the EU average with R&D spending of 1.6%. This trend is also reflected in patent registrations, where in 2015 some 38% of them came from China, 20.4% USA and only 5.5% from the European Patent Office. First estimates of Research & Development expenditure, Eurostat, 1. 12. 2017; R&D in the Czech Republic, CzechInvest, leden 2018.

⁷ More European, More Connected and More Capable: Building the European Armed Forces of the Future. Munich Security Conference report, 29. 11. 2017,



level reduces interoperability and prevents suitable military cooperation in joint operations. The best-case scenario is a deepening dependency on American technology. The worst-case scenario is the gradually rising prominence of cheaper Chinese or Russian equipment alternatives that carry serious security risks. **The US and European partners certainly do not act as a synchronized pair in the defense industry and the technological weakness of Europe makes the entire Alliance more fragile.**

Fading credibility of NATO deterrence policy

The deteriorating technological dominance of NATO also originates from the global proliferation of sophisticated weapons systems. This includes the expanding availability of precision-guided munitions, air-launched cruise missiles or indirect fire capacities and the growing range of missile defense systems. This is coupled with increases in cyber, electronic, informational and intelligence capabilities.⁸ All these activities raise the overall dependency on satellite communication.

Russian A2/AD capabilities aimed at decreasing NATO air superiority in Eastern Europe represent the main threat for the territorial defense of Europe. These include integrated multi-layer air defense, naval-launched cruise or ballistic missiles, integrated command and control and ISR (Intelligence, Surveillance and Reconnaissance) operations.⁹ For the United States, facing A2/AD capacities is also a challenge in the South China Sea at the hands of the Chinese People's Liberation Army, despite the fact that Beijing does not pose a risk of complete access denial in the region.¹⁰

The situation differs in Europe. Russian A2/AD capabilities give Moscow a battlefield advantage in the case of a regional escalation in the Baltics despite the overall military dominance of NATO.¹¹ To defend the Eastern Flank the Alliance possesses the Very High Readiness Joint Task Force (VJTF), Enhanced Forward Presence (eFP) in Poland and the Baltics and the Tailored Forward Presence (tFP) in the Black Sea area. Yet, **a potential conflict would require a relocation of follow-up NATO forces based mainly in Western Europe or overseas.** Such a transportation onto the battlefield would take months at the current setting. An ineffective and slow military mobility in Europe thus weakens NATO's deterrence policy.

<https://www.securityconference.de/en/news/article/more-european-more-connected-and-morecapable-msc-presents-new-report-on-european-defense-coope/>.

⁸ Sylvie Matelly, Christian Mölling, and Trevor Taylor. "The Future of Transatlantic Strategic Superiority" GMFUS, 27. 4. 2018, <http://www.gmfus.org/publications/future-transatlantic-strategicsuperiority>.

⁹ Captain William A. Perkins. "Component Integration Challenges Presented by Advanced Layered Defence Systems (A2/AD)." *The Three Swords Magazine*, 33/2018.

¹⁰ Stephen Biddle, Ivan Oelrich. "Future Warfare in the Western Pacific: Chinese Antiaccess/Area Denial, US Air Sea Battle, and Command of the Commons in East Asia." *International Security* 41.1 (2016): 7-48.

¹¹ Luis Simón. "Demystifying the A2/AD Buzz." *War on the Rocks* 4 (2017).



Strong NATO through strong Europe

The transatlantic rift has, together with other factors, pushed the EU to move towards developing industrial, political and defense autonomy. This trend does not pose a structural dilution of transatlantic relations. On the contrary, it will make **Europe a more equal and able partner to the US, strengthen the Alliance in the long term and make the Transatlantic relationship more resilient against future political turbulence.** This will, however, require adjustments to relations between the EU and NATO. Partial steps with regard to military mobility and structural change with regard to the defense industry could together build resilience against short-term disagreements in transatlantic relations.

Utilizing untapped innovative potential within the transatlantic community is key since the technological and strategic power of Western rivals no longer stems from a mere imitation and import of foreign technology but more and more from domestic innovations. Bolstering the European industrial and technological base is crucial for European countries to become reliable NATO members.

A more systemic link between NATO and the EU in the military mobility area is a net security gain since the swift movement of units across Europe is critical for a credible deterrence policy of the Alliance. But the EU is the sole actor that has the legislative, regulatory and policy tools needed to address this agenda that encompasses local, national and supranational actors and various ministries within governments. **Linking the EU's trans-European transport network TEN-T¹² and European funds with military mobility needs on NATO's part would significantly contribute to the Alliance's operability.**¹³

However, military mobility is not the sole factor for an effective deterrence policy on the Eastern NATO flank. Technological capabilities to mitigate local Russian military dominance, e.g. in the Baltics, are also crucial. Russian A2/AD capabilities that are a central piece of this dominance are at the same time dependent on satellite communications. **Developing capabilities enabling the disruption of SatCom would strengthen deterrence vis-à-vis possible Russian escalation.** Apart from cyber or electromagnetic tools, there are also non-kinetic ways to disrupt these systems. Lasers can be used to temporarily dazzle electro-optical sensors on satellites.¹⁴ Lasers also don't create cosmic debris; their effects can be only temporary and their attribution to a specific actor is complicated.

Development of these capabilities, however, is hampered by the fact that NATO just recently (at the July Brussels summit) established its space policy. Before Brussels, this agenda was addressed within NATO's Science and Technology Organization (STO). In its January 2018 report, the STO highlighted the dependency of the Alliance's military capabilities on satcom and the necessity of its protection against China and Russia who are developing their own anti-satellite capabilities.¹⁵ **Here too the EU can contribute to NATO's strength.**

The European Galileo and Copernicus programs have, apart from their primary civilian use, also security and defense potential. E.g. the system for monitoring orbital debris can be used to track ballistic missiles or as a European successor for NATO's AWACS (Airborne Warning and Control System)

¹² The Trans-European Transport Networks consists of road, rail, air and water transport networks, including nine main corridors, of priority infrastructure development aimed at improving the single market.

¹³ Daniel Fiott. Modernising NATO's Defence Infrastructure with EU Funds. Survival, 58:2.

¹⁴ Report SCI-238-SM Specialists Meeting on NATO Space Dependencies (AC/323(SCI-238)TP/544). Science and Technology Organization, 10. 1. 2018.

¹⁵ Report SCI-238-SM Specialists Meeting on NATO Space Dependencies (AC/323(SCI-238)TP/544). Science and Technology Organization, 10. 1. 2018.



capability.¹⁶ Copernicus' radar interferometry can be utilized to effectively monitor transport infrastructure damage on a European scale.¹⁷ The Galileo navigation system has an in-built secure and encrypted Public Regulated Service (PRS) that was designed for defense use.

Although specific data or operational capabilities developed within the EU cannot be directly accessible to all NATO members, the final product and valuable information can. Just like specific US capabilities for orbital monitoring that are not operationally in the hands of European countries but relevant information is shared within the cooperation framework that is based on mutual complementarity. The EU or the US can be exclusive owners of certain capabilities that can at the same time benefit the whole transatlantic community.

A more intensive debate should be therefore led about synchronization of space activities and cooperation among NATO member countries but also between the EU and NATO. Our collective capacity for action depends on it.

Europeanization of the defense industry and space activities as Czech contributions to collective defense

The Czech Republic should not buy into the bilateralization of transatlantic relations under the pressure of US unilateralism and try to impress its US partners e.g. by moving the Czech embassy in Israel to Jerusalem, while breaking the EU policy consensus. The goal of the Czech Republic should not be to flatter the Trump administration at any cost but to be active in forming the European consensus in areas like the defense industry generally and space policy specifically. With an emphasis on space policy the Czech Republic can contribute to the strengthening of European industry and also to NATO's deterrence policy by improving military mobility and technological capabilities.

With regard to the defense industry, the Czech Republic's interest is to involve its small and medium businesses in Western European supply chains but also to continue technological cooperation with the US. **This way the national defense industry can be maintained and survive in a competitive market dominated by large industrial groups.** Purchasing European armaments is, therefore, a logical step to link Czech companies with the European defense industry, an effective use of money and a way to strengthen European defense capabilities. The Czech Republic should pursue an armaments policy balanced vis-à-vis European autonomous French and Transatlantic nationalist Polish positions. **The Czech Republic also needs to start to balance its strong linkage to the British (through Sweden) and Israeli armaments industry since these do not contribute as far as possible to the European industrial and technological base.**

The Czech Republic can contribute to NATO space capabilities thanks to the fact that Prague hosts the European Global Navigation Satellite Systems Agency (GSA). The growing EU space agenda could be managed under the GSA's expanded mandate, a step supported by the Czech government.¹⁸ The Czech Republic should

¹⁶ Philippe Brunet, Statement at the Security and Defense Subcommittee at the European Parliament, 15. 5. 2018.

¹⁷ Radar interferometry is a technology that can be used for detecting surface changes on the millimetre scale, which is used for monitoring subsidence or structural stability.

¹⁸ Government of the Czech Republic, „Vláda navrhuje posílení práv klientů směnárén, usilovat bude také o silnější pozici agentury GSA v rámci evropského kosmického programu,” 30. 5. 2018, <https://www.vlada.cz/cz/media-centrum/aktualne/vlada-navrhuje-posileni-prav-klientu-smenaren-->



utilize this potential to the fullest not only within domestic industrial, technological and scientific developments but also on the international scale and pursue an active space policy.

Further, in the technological realm the Czech Republic can make use of the high-tech laser center (ELI Beams) in Dolni Brezany. These lasers not only have large civilian economic potential (e. g. asteroid mining) but also cross-over into the military sphere (e. g. the already mentioned A2/AD satellite dazzling, or asteroid defense). Defense against anti-satellite technologies should be prioritized. The Czech Ministry of transport even identified anti-satellite technologies as one of the risks for the security of national transport systems.¹⁹ **All these space-related capabilities should be systematically developed and become a part of defense planning policy and a national space plan.**²⁰

Given the lack of political will for significant increases in defense expenditures, the Czech Republic has to contribute to NATO capabilities in other areas. This paper suggests that one of these areas can be space policy and the related agenda since this area has on average six times return on investment across different sectors.²¹ Building up a unique know-how that has a broad application in civilian and defense policy as well is the right way to become good allies to our partners in the Transatlantic community. Developing specific national niche areas is a way to become more relevant internationally.

We can do more than just hope to meet our commitments

A well-functioning NATO and a strong Europe are the best guarantees for the protection of Czech interests. History tells us that the Czech Republic ought to be a reliable ally that strengthens NATO's power and unity and contributes above the minimal required commitments. **Prague needs to actively look for such solutions to shape its own future and not merely seek guarantees from Washington or Brussels.** However, the Czech Republic currently lacks the political will to increase the defense budget to the 2% NATO guideline and doubts persist over whether major planned military equipment acquisitions can be carried out in the near future. Although the Czech Republic is committing more soldiers to foreign deployments, the capacity to contribute to collective defense is stagnating.

In such a situation the Czech Republic must prioritize and search for a niche area that brings greater benefits to its allies and is politically feasible. At the same time, this area should be in line with Czech interests in the Alliance - especially the defense of the Eastern flank - and should address some of the structural problems of the Transatlantic community - in particular the lack of technological capabilities on the European side. What meets these criteria is linking defense policy with innovative laser and space technologies and space-focused activities. This can make a significant contribution to military mobility or reduction of Russian A2/AD capabilities in the Baltic region and thereby enhance the security of NATO's Eastern flank.

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¹⁹ Ministry of Transport, „Akční plán rozvoje inteligentních transportních systémů.“ Prague. June 2016.

²⁰ The preparations for the new Czech National Space Plan for 2020 on begin in fall 2018.


²¹ “A Solid Investment,” European Space Agency, Last edit 19. 11. 2002,

https://www.esa.int/Our_Activities/Space_Engineering_Technology/A_solid_investment.




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This paper was prepared within the project „Future of the Czech security and defence policy and the role of NATO and the EU“, which is supported by Konrad-Adenauer-Stiftung. The paper does not reflect the views of Konrad-Adenauer-Stiftung.