

HCSS Security

The Closing Window: Dutch Relevance in Space Examined

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Military space and the EU

This paper will discuss the added value of increasing spending towards military space capabilities for the Netherlands, as well as provide policy suggestions to this end.

Space has traditionally been classified as part of the “commons”: domains owned by none and accessible to all.¹ It shares this designation with the high seas and the airspace. These latter two domains have been the stage for military confrontations since early historic times and the dawn of the modern era respectively, thereby defining the notion of the global commons. In fact, a significant part of the military spending of the Member States of the European Union is aimed at being able to control the sea and the air. In comparison to the air and sea domains, EU military spending on space is very limited.

However, 2018 has seen a significant increase in interest in and spending regarding space. NATO, the EU, the US, Dutch MPs and many other public actors have declared their intentions to reshape and increase activities in space, and institutional frameworks supporting such intentions have been sprouting up across the globe.² Parallel to its increased value, space is becoming militarized: an additional domain for potential military conflict.

Specifically relevant to this paper is the EU’s recognition of space as a “strategic asset”, as well as a “core element in achieving Europe’s objective of ‘strategic autonomy’”.³ In particular, it is essential to recognize that military operations and political decision-making is becoming increasingly dependent on information-gathering, communication and navigation. Space is a domain that can host the capabilities for these functions. This development follows the publication of the European Global Strategy (EUGS) in 2016, which, amongst other policy goals, states that the EU must be able “[...] to act autonomously if

¹ Posen, Barry R. "Command of the Commons: The Military Foundation of U.S. Hegemony." *International Security* 28, no. 1 (2003): 5-46.

² NATO. 2019. "NATO Defence Ministers Approve New Space Policy, Discuss Readiness And Mission In Afghanistan". *NATO*. https://www.nato.int/cps/en/natohq/news_167181.htm#targetText=Today%2C%20Ministers%20approve%20a%20new%20overarching%20space%20policy.&targetText=Ministers%20also%20addressed%20NATO's%20defence,be%20ready%20within%2030%20days; Emmott, Robin. 2019. "Exclusive: NATO Aims To Make Space New Frontier In Defense". *U.S.*. <https://www.reuters.com/article/us-nato-space-exclusive/exclusive-nato-aims-to-make-space-new-frontier-in-defense-idUSKCN1TMIAD>; World Economic Forum. 2019. "France's New Space Defence Strategy Explained". *World Economic Forum*. <https://www.weforum.org/agenda/2019/08/frances-new-space-defence-strategy-explained/>; Bosman, André. 2019. "Kamervragen Wat Betreft De Inzet Van Defensie In Het Ruimtevaartdomein". *Tweedekamer.NL*. <https://www.tweedekamer.nl/kamerstukken/kamervragen/detail?id=2019Z15438&did=2019D31766>;

Mehta, Aaron. 2019. "What Does Britain Have In The Works For Its Upcoming Space Strategy?". *Defense News*. <https://www.defensenews.com/digital-show-dailies/space-symposium/2019/04/05/what-does-britain-have-in-the-works-for-its-upcoming-space-strategy/>;

³ European Defence Agency. 2017. "Space & Defence: The Sky Is Not The Limit". Brussels: European Defence Agency: 2. <https://www.eda.europa.eu/docs/default-source/eda-magazine/edmissue13lowresweb>.

and when necessary."⁴ Crucially, the implementation of the EUGS will, in combination with the EU's recognition of the significance of space, offer substantial opportunities for the Kingdom of The Netherlands to carve out a role for itself within the European military context regarding space. These developments are fundamentally rooted in the Lisbon Treaty (2009), which explicitly granted the EU powers to develop "its own space policy initiatives".⁵

Budget of the top 5 space agencies with the highest funding (2019)

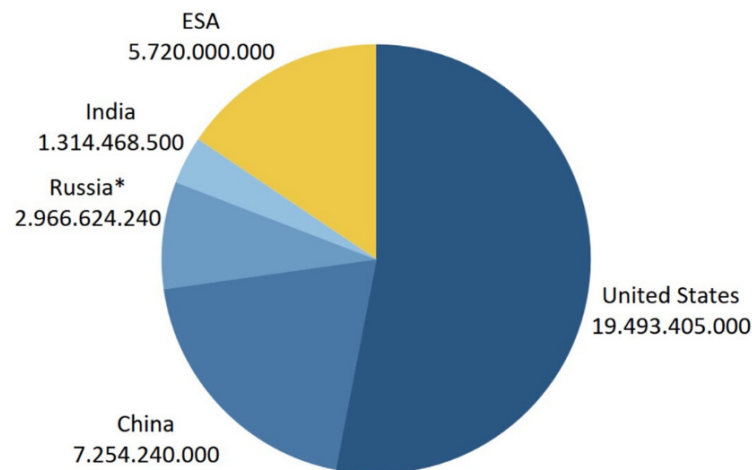


Figure 1: Budgets of the five largest space agencies globally in 2019 euros (2019).⁶ *the data used for Russia is from 2015, as it was the most recent available.

It should be noted that these developments within the EU coincide with an increasing tendency of EU Member States France and Germany (and recently Spain⁷) to stimulate their military sector, as the two countries will "deepen their cooperation in matters of foreign policy, defence, external and internal security and development while striving to strengthen Europe's ability to act

⁴ European Commission. 2016. "European Union Global Strategy". Brussels: European Commission. http://eeas.europa.eu/archives/docs/top_stories/pdf/eugs_review_web.pdf.

⁵ Germany, Federal Ministry of Economics and Technology. 2010. "Making Germany's Space Sector Fit For The Future". Berlin. https://www.dlr.de/rd/en/Portaldata/28/Resources/dokumente/Raumfahrtstrategie_en.pdf

⁶ European Space Agency. 2019. "ESA Budget For 2019". Paris: European Space Agency; "Budget 2019: ISRO Open For Business, New Commercial Arm To Harness Economic Benefits Of ISRO". 2019. *The Economic Times*. <https://economictimes.indiatimes.com/news/science/budget-2019-isro-open-for-business-new-commercial-arm-to-harness-economic-benefits-of-isro/articleshow/70085844.cms?from=mdr>; Campbell, Charlie. 2019. "From Satellites To The Moon And Mars, China Is Quickly Becoming A Space Superpower". *Time*. <https://time.com/5623537/china-space/>; U.S. National Aeronautic sand Space Administration. 2019. "FY Budget Estimates". Houston. https://www.nasa.gov/sites/default/files/atoms/files/fy19_nasa_budget_estimates.pdf.

Karash, Yuri. 2016 "Russian Space Program: financial state, current plans, ambitions and cooperation with the United States". *The Space Congress Proceedings*. <https://commons.erau.edu/space-congress-proceedings/proceedings-2016-44th/presentations-2016/27>

⁷ Rose, Michel. 2019. "Spain Joins France And Germany In Race To Build Europe's Next Combat Jet". *Reuters*. <https://www.reuters.com/article/us-france-airshow-europe-fighter/spain-joins-france-and-germany-in-race-to-build-europes-next-combat-jet-idUSKCNrTlOZ3>.

autonomously".⁸ Bundeskanzlerin Angela Merkel weighed in by stating that the treaty would lead to a "common military culture" that "contributes to the creation of a European army."⁹ Interpretations of the term "European army" are irrelevant for this paper, but this remark goes a long way to showcase the potential for military relevance of European defence cooperation.

The Netherlands' defence spending constitutes around 4 percent of the total defence spending of the EU Member States.¹⁰ Increasing spending on the development of military space capabilities could offer an enlargement of Dutch military relevance within the Union, as specific information gathering practices would provide the Netherlands with leverage in intelligence negotiations.

The following section will discuss the position of the Netherlands within the EU's military future in space.

EU Member States Defense Spending as a % of Total EU Military Spending

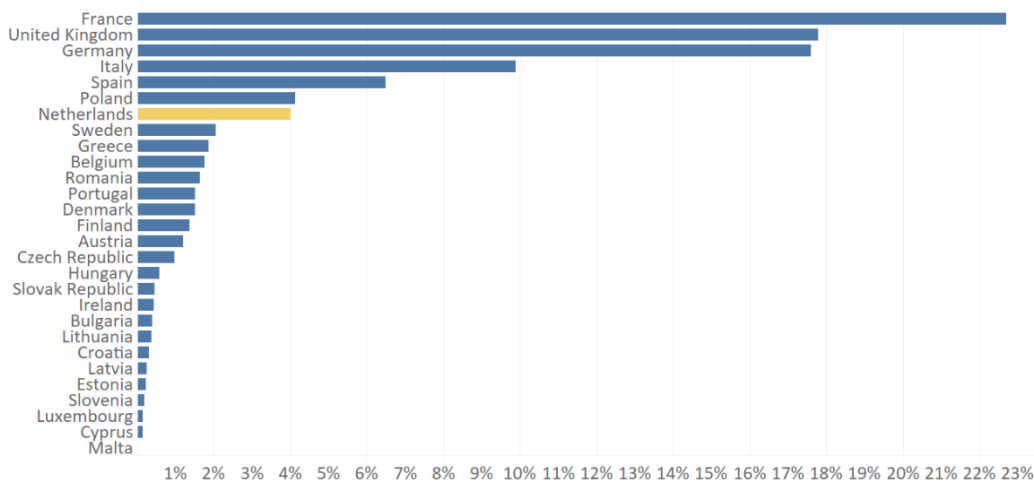


Figure 2: EU Member States' defense spending as a % of total of EU military spending (2018).

Dutch size matters

Robert Keohane defined a small state as "a state whose leaders consider that it can never, acting alone or in a small group, make a significant impact on the system".¹¹ The Netherlands sees itself as a "pocket-sized big power", actively

⁸ Treaty between the Federal Republic of Germany and the French Republic on Franco - German Cooperation and Integration art. 3, Jan. 22, 2019.

⁹ McIntosh, Jane. 2019. "What's In The Franco-German Treaty Of Aachen? | DW | 22.01.2019". *DW.COM*. <https://www.dw.com/en/whats-in-the-franco-german-treaty-of-aachen/a-47178247>.

¹⁰ European Union, Directorate-General for Internal Policies. 2018. "DEFENCE: Member States' Spending". Brussels: European Union: 2. [http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621784/IPOL_BRI\(2018\)621784_EN.pdf#targ etText=France%20is%20second%20with%20around,in%20the%20EU%20in%202016](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621784/IPOL_BRI(2018)621784_EN.pdf#targ etText=France%20is%20second%20with%20around,in%20the%20EU%20in%202016).

¹¹ Keohane, Robert O. "Lilliputians' Dilemmas: Small States in International Politics." *International Organization* 23, no. 2 (1969): 291-310.

advocating for a multilateral approach to international relations.¹² In this position, Jean-Marc Rickli finds that states have the possibility to either “adopt [a] niche or [follow] lead/framework nations’ strategies”.¹³ This paper discusses the opportunities of the Netherlands finding such a niche, but research into the latter of Rickli’s options is of the essence in the future discussion regarding the Dutch role in space. Rickli further states that: “Adopting a niche strategy allows the small state to have codecision power at the operational level and strategic leverage if its specialized capabilities are desperately needed.”¹⁴ The contemporary adoption of space as a fully developed military domain by the EU and others may offer a good opportunity to find such a niche. Investments in a space niche yield might well create more negotiation leverage than investing in traditional capabilities. In order to determine where these opportunities lie, the next section will discuss existing Dutch activity regarding space.

The Netherlands military and cross-domain opportunities in space

The Dutch town of Noordwijk hosts the European Space Agency’s (ESA) European Space Research and Technology Centre (ESTEC), and the province of Zuid-Holland has been called the “space valley of Europe” by ESA director Franco Ongaro.¹⁵ In other words, the Netherlands already has and is further developing the institutional infrastructure to be an important actor in the European space sphere. Military ambitions for space could and should be supported by commercial activities in the Space Valley, which would be stimulated by increasing government investments.

The Netherlands Armed Forces have made their first step towards creating a foothold in space, through the development of the Brik-II satellite.¹⁶ This nanosatellite, developed in cooperation with Dutch industrial partners, the Royal Netherlands Aerospace Centre and the TU Delft is capable of providing the Dutch armed forces with fairly limited intelligence regarding communication and observation.¹⁷

¹² Rutte, Mark. 2019. “Toespraak Van Minister-President Mark Rutte Voor De Atlantische Commissie”. Speech, Atlantic Commission, 2019.

<https://www.rijksoverheid.nl/documenten/toespraken/2019/10/03/toespraak-van-minister-president-mark-rutte-voor-de-atlantische-commissie>

¹³ Rickli, Jean-Marc. “European Small States’ Military Policies after the Cold War: From Territorial to Niche Strategies.” *Cambridge Review of International Affairs* 21, no. 3 (2008): 308.

¹⁴ *Ibid.*, 318.

¹⁵ Simons, Wilfred. 2018. “Estec Als Kloppend Hart Space Valley”. *Leidsch Dagblad*. https://www.leidschdagblad.nl/cnt/dmf20180926_11338531/estec-als-kloppend-hart-space-valley?utm_source=google&utm_medium=organic.

¹⁶ The Netherlands, Ministry of Defence, 2017. “Luchtmacht Gaat De Ruimte In”. *Defensie.nl*. <https://www.defensie.nl/actueel/nieuws/2017/11/30/luchtmacht-gaat-de-ruimte-in>.

¹⁷ Boere, Raymond. 2017. “Simpel Satelliet, Maar Vol Speciale Snufjes”. *Ad.Nl*. <https://www.ad.nl/binnenland/simpele-satelliet-maar-vol-speciale-snufjes~ac67a642/>.

The Brik-II capabilities currently include: UHF store-forward; SIGINT; and Scintillation.

What should the Netherlands do?

Both political decision making in deploying Dutch soldiers as the actual conduct of military operations should be based on the best information and intelligence possible with the highest possible degree of national autonomy and integrity. The space domain can provide a crucial part the required information. In order to utilize the opportunities space offers, a two-track approach is advised: (1) acquiring a subscription into a commercially available, European-based satellite constellation; and (2) developing Responsive Space Capabilities (RSC). The subscription into acquiring constellation images secures a continuous availability of images in order to keep overwatch and build up Situational Awareness. The development of Responsive Space Capabilities provides for tailor made, built-to-request intelligence for enhancing Situational Understanding, independently of other nations or coalitions and - due to its secure communications - untampered with by possible opponents or other actors.

	Track 1: Constellation	Track 2: Responsive Space Capabilities
Costs	€ 3-5 million/year	Scalable upwards from € 5 million/year
Reliability	High	High
Independence	Medium	Full
Facilitating operational niche	No	Yes
Security of information	High	Full
Complexity	Low	High
Quality of information	Medium	Flexible but scalable to High
Facilitating innovation	No	Yes
Tailored to acute needs	No	Yes

Table 1: (operational) characteristics of Track 1 and Track 2.

In the short term, investing in a European based constellation is a viable way to show Dutch commitment to providing useful contributions to the (space-based) military autonomy of the European Union, allowing for diplomatic leverage within the European community. However, the development of RSC is a more durable and focused way of solidifying the Dutch information position with dedicated situational awareness as a basis for In-depth situational understanding. Furthermore, there is a clear economic spin-off: the currently developing and available pool of knowledge within the RNLAf and the Netherlands' space industrial base will strengthen the space sector (and the role of the Space Valley) considerably.

Note that these two options are not mutually exclusive but rather fundamentally build upon one another, both in the practical sense and financially. Although not insignificant, investing in Track 1 capabilities does not require serious institutional and financial reform or additions to the Ministry of

Defence budget. Developing RSC is more costly, as it is estimated to start at around 5 million euros per year, but it carries with it the substantial benefit of stimulating the Dutch space-faring industry.

In order to maximize the impact of its investments, the Netherlands should not (merely) imitate existing initiatives. Rather, in developing its RSC, it ought to gear itself towards fulfilling a space-niche; adding unique capabilities to its portfolio and strengthening its leverage in intelligence negotiations. Such investments would boost the potency of the military-industrial sector of the Netherlands while supplying the commercial sector with momentum in its development of space as a financially viable territory of expansion for the Dutch economy.¹⁸

The Netherlands acquiring significant space capabilities through these measures is neither logistically nor financially unrealistic, and as time progresses the utilization of RSC will only become more manageable. Global developments in the space domain further showcase that space is (becoming) “competitive, contested and congested”.¹⁹ Dutch activity in space need not be a form of costly military adventurism, but could rather lead to a mutually beneficial, knowledge-centered cooperative effort between the private and public sectors.

Hence, what is needed at the present time is a foundational military space strategy formulated by the Dutch government. As other European states, ranging from the small player Luxembourg to Germany and France, are crystallizing their role in Europe’s space capabilities, the Netherlands is unnecessarily hesitant in investigating these opportunities. Crucial to formulating a military space strategy based within the European context are three facets.

1. space must be recognized as a military domain;
2. a sound strategic analysis of the technology available to other EU Member States increases the possibility for finding a tactical and strategic niche for the RNLAF; and
3. since space exists within a nexus between military and commercial interests, the interests of the latter ought to be consistently considered, as “76 percent of global revenue in the space sector is now generated by commercial activities”.²⁰

As a final remark, in the estimation of the authors, as time progresses the maneuvering space for the Netherlands to define its own niche within European military space infrastructure will decrease. The window of opportunity for the

¹⁸ Dunlop, Connor, and Patrick Bolder. 2019. "HCSS Snapshot: Space And The Netherlands". *The Hague Centre for Strategic Studies*. <https://hcss.nl/news/hcss-snapshot-space-and-netherlands>.

¹⁹ Dawson, Linda. 2018. *War In Space*. 1st ed. Chichester: Springer International Publishing: 16.

²⁰ Quintana, Elizabeth. "The New Space Age: Questions for Defence and Security." *The RUSI Journal* 162, no. 3 (2017): 88-109.

development of effective and agency-driven contemporary Dutch military space capabilities is temporary and will slowly but surely close in the coming years. Given this dynamic, Dutch hesitance will lead to Dutch irrelevance.

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