

May 6, 2024

The Honorable Lloyd J. Austin III
Secretary of Defense
U.S. Department of Defense
1000 Defense Pentagon,
Washington, DC 20301

Dear Secretary Austin,

I write regarding my concern about a new report that black market middlemen “have proliferated in recent months to buy [Starlink] user terminals and ship them to Russian forces,” illustrating that, “a shadowy supply chain exists for Starlink hardware that has fed backroom deals in Africa, Southeast Asia, and the United Arab Emirates, putting thousands of the ... devices into the hands of some American adversaries and accused war criminals.”¹ According to the report, this ongoing evasion of US sanctions and export controls has “eroded a battlefield advantage once enjoyed by Ukrainian forces.”² DoD must act to ensure that DoD contractors are held accountable for any expropriation of their technology by hostile actors so we may adequately support and arm our allies in their fight against Russia’s illegal invasion.

The Wall Street Journal’s investigation is deeply troubling; revealing a serious national security threat to the U.S. and our allies, reportedly posed by supplies and services exclusively produced and sustained by a key DoD contractor. The Department of Defense (DoD), which has a \$23 million contract with SpaceX to provide its services to the U.S. and its allies,³ must act to prevent the misuse of Starlink technology by sanctioned military and paramilitary forces.

As a DoD contractor, SpaceX cannot allow its products or services to be used to undermine national security. The Department of Justice (DoJ), the Department of Commerce (Commerce) and the Department of the Treasury (Treasury) have all issued warnings to private US companies, making them aware of the lengths Russia would go to circumvent sanctions in order to obtain beneficial exports.⁴ A 2023 Tri-Seal compliance advisory from DoJ, Commerce and Treasury warned that:

¹ Wall Street Journal, “The Black Market That Delivers Elon Musk’s Starlink to U.S. Foes,” Thomas Grove and Nicholas Bariyo and Micah Maidenberg and Emma Scott and Ian Lovett, April 9, 2024, https://www.wsj.com/business/telecom/starlink-musk-ukraine-russia-sudan-satellite-communications-technology-f4fc79d9?st=f5v89whyfofz1p9&reflink=desktopwebshare_permalink.

² *Ibid.*

³ Bloomberg, “SpaceX Contract to Supply Starlink in Ukraine Is Worth \$23 Million,” Anthony Capaccio, April 9, 2024, <https://www.bloomberg.com/news/articles/2024-04-09/spacex-contract-to-supply-starlink-in-ukraine-worth-23-million>.

⁴ Department of Commerce, Department of the Treasury, and Department of Justice Tri-Seal Compliance Note, “Cracking Down on Third-Party Intermediaries Used to Evade Russia-Related Sanctions and Export Controls,” March 2, 2023, <https://www.justice.gov/nsd/file/1277536/dl?inline>.

One of the most common tactics is the use of third-party intermediaries or transshipment points to circumvent restrictions, disguise the involvement of Specially Designated Nationals and Blocked Persons (SDNs) or parties on the Entity List in transactions, and obscure the true identities of Russian end users.⁵

SpaceX must make every attempt to ensure its Starlink devices and service are obtained and operated in full compliance with US law – but reports suggests it may not be doing so effectively. Reports indicate that Starlink has been aware of hostile actors circumventing U.S. sanctions to acquire its terminals since at least February of this year, and that U.S. officials are “working with Ukraine and...with Starlink,” to address this misuse – however the status of these efforts is unclear at best.⁶ The misuse of Starlink services has drastically reduced the strategic advantage it has provided to Ukraine throughout the war, giving Russia the “secure, compatible communication system for complex operations”⁷ it had been lacking. For years the Russian military has operated with a “communications system unsuited for modern warfare.”⁸ This has been one of “the most consequential weaknesses at the state level that have contributed to the Russian military’s subpar performance to date in the war with Ukraine.”⁹ By using Starlink as a communication tool the Russian military has mitigated one of its key weaknesses in its invasion of Ukraine.

Shortly after Russia’s full-scale invasion in February 2022, Ukraine’s hardwired internet and telephone access was destroyed, degrading its capacity to defend itself.¹⁰ Starlink has become a crucial component of Ukrainian defense and civilian telecommunications, “[doing] everything from helping soldiers stay updated in group chats to running apps that help compute targeting information for howitzer batteries...soldiers often use the same Starlink-connected devices to communicate with loved ones back home or abroad and to upload battlefield videos onto social media.”¹¹ Since the original application of Starlink in the country, its services have become widespread and have helped turn the tide of the war in Ukraine’s favor.¹²

In June 2023 DoD announced it had reached an annual contract with Starlink to provide more than 10,000 terminals and accompanying internet service to Ukraine. This contract has a price

⁵ *Ibid.*

⁶ Wall Street Journal, “The Black Market That Delivers Elon Musk’s Starlink to U.S. Foes,” Thomas Grove and Nicholas Bariyo and Micah Maidenberg and Emma Scott and Ian Lovett, April 9, 2024, https://www.wsj.com/business/telecom/starlink-musk-ukraine-russia-sudan-satellite-communications-technology-f4fc79d9?st=f5v89whyfofz1p9&reflink=desktopwebshare_permalink.

⁷ *Id.*

⁸ Foreign Policy Research Institute, “The Roots of Russian Military Dysfunction,” Phillip Wasielewski, March 31, 2023 <https://www.fpri.org/article/2023/03/the-roots-of-russian-military-dysfunction/>.

⁹ *Ibid.*

¹⁰ Washington Post, “Whatever the fuss over Elon Musk, Starlink is utterly essential in Ukraine,” Alex Horton and Serhii Korolchuk, September 18, 2023, <https://www.washingtonpost.com/world/2023/09/08/elon-musk-starlink-ukraine-war/>.

¹¹ The Economist, “How Elon Musk’s satellites have saved Ukraine and changed warfare,” January 5, 2023 <https://www.economist.com/briefing/2023/01/05/how-elon-musks-satellites-have-saved-ukraine-and-changed-warfare>.

¹² *Ibid.*

tag of \$23 million dollars and represents a crucial component of US military assistance to our ally.¹³

Recent reports from Ukrainian defense and intelligence officials have suggested that Russian forces have been acquiring Starlink terminals through third-party intermediaries and neutral countries.¹⁴ The Wall Street Journal's investigative report revealed that the black market for Starlink terminals is so porous that Russian dealers are offering the devices through online stores, with reports of some being sold on eBay.¹⁵ According to this report, one such online store has promised "tested performance" in occupied Ukrainian territory, including Crimea.¹⁶ There have even been accounts of a concerted effort by Russian forces to target and capture Ukrainian Starlink terminals and repurpose them for Russian use.¹⁷

In addition to the use of black market Starlink terminals in Ukraine, reports have surfaced of the devices being smuggled into Iran, Yemen, and Sudan where the Rapid Support Forces (RSF), a group accused of war crimes by the United States, has acquired them:

Sudanese military officials and unauthorized Starlink dealers said in interviews that Abdelrahim Hamdan Dagalo, the RSF's deputy commander, has overseen the purchase of hundreds of Starlink terminals from dealers in the United Arab Emirates.¹⁸

The RSF has reportedly made use of Starlink's "roam" feature to circumvent Sudan's moratorium on access in the country. This feature allows users to access Starlink services outside of the terminals' original registered country. On April 16, 2024, the Wall Street Journal reported that, in response to pressure from various African governments, the company notified users that its roam feature is only "intended for temporary travel and transit, not for permanent use in a location," and all users who do not return their devices to their country of origin within 2 months will have their service disconnected.¹⁹ This guidance by SpaceX is wholly insufficient: it fails to address directly any Russian use of originally Ukrainian registered Starlink's or of any acquired

¹³ Bloomberg, "SpaceX Contract to Supply Starlink in Ukraine Is Worth \$23 Million," Anthony Capaccio, April 9, 2024, https://www.bloomberg.com/news/articles/2024-04-09/spacex-contract-to-supply-starlink-in-ukraine-worth-23-million?utm_source=website&utm_medium=share&utm_campaign=copy.

¹⁴ Wall Street Journal, "Ukraine Says Russia Is Using Starlink at the Front Line, Prompting Pushback From Elon Musk," Ian Lovett and Micha Maidenberg, February 11, 2024, <https://www.wsj.com/world/russia/russia-using-musks-starlink-at-the-front-line-ukraine-says-516701f0>.

¹⁵ Wall Street Journal, "The Black Market That Delivers Elon Musk's Starlink to U.S. Foes," Thomas Grove and Nicholas Bariyo and Micah Maidenberg and Emma Scott and Ian Lovett, April 9, 2024, https://www.wsj.com/business/telecom/starlink-musk-ukraine-russia-sudan-satellite-communications-technology-f4fc79d9?st=f5v89whyfofz1p9&reflink=desktopwebshare_permalink.

¹⁶ *Id.*

¹⁷ Wall Street Journal, "Ukraine Says Russia Is Using Starlink at the Front Line, Prompting Pushback From Elon Musk," Ian Lovett and Micha Maidenberg, February 11, 2024, <https://www.wsj.com/world/russia/russia-using-musks-starlink-at-the-front-line-ukraine-says-516701f0>.

¹⁸ Wall Street Journal, "The Black Market That Delivers Elon Musk's Starlink to U.S. Foes," Thomas Grove and Nicholas Bariyo and Micah Maidenberg and Emma Scott and Ian Lovett, April 9, 2024, https://www.wsj.com/business/telecom/starlink-musk-ukraine-russia-sudan-satellite-communications-technology-f4fc79d9?st=f5v89whyfofz1p9&reflink=desktopwebshare_permalink.

¹⁹ Wall Street Journal, "Musk's Starlink Cracks Down on Growing Black Market," Nicholas Bariyo and Gabriele Steinhauser and Alexandra Wexler and Micah Maidenberg, April 16 2023, https://www.wsj.com/world/africa/elon-musk-spacex-starlink-satellite-access-crackdown-e09f3e4e?mod=hp_lead_pos8.

on the black-market and fails to properly address the core issues of illicit and unlicensed Starlink use. Additionally, it appears to codify that, at minimum, Starlink has simply given users a 2-month pass for unlicensed use before they need to get a new terminal on an already saturated black market.

The illegal trade of Starlink terminals and its service may also directly injure our allies' ability to use their own devices. Ukrainian officials have suggested that the proliferation of Starlink terminals to Russian forces may be degrading their connection quality and speed. According to one Ukrainian communications operator: "It breaks up all the time, it needs to be rebooted for it to start working properly. But soon the speed starts to decrease and the connection breaks up again. It brings rather unpleasant complications."²⁰ The piracy of Starlink services by Russian forces in Ukraine has become so widespread that it has been described as "systemic."²¹

In February 2024 Ukraine raised serious concerns about Russian forces using Starlink terminals in occupied territories and on the front lines but reportedly feared pressing the issue with SpaceX because of the "unpredictable" nature of tech billionaire Elon Musk.²² Now months later, the use of these terminals, acquired on the black market, appears to be pervasive.

In February 2024, Mr. Musk stated that "To the best of our knowledge, no Starlinks have been sold directly or indirectly to Russia."²³ Starlink officials have also indicated that "If SpaceX obtains knowledge that a Starlink terminal is being used by a sanctioned or unauthorized party, we investigate the claim and take actions to deactivate the terminal if confirmed."²⁴ The Starlink user agreement specifies that users can't resell Starlink terminals or services without authorization and violators run the risk of losing access to the service. The satellite company has stated in the past that it has the ability to use "geofencing" to limit service access in specific locations, and the ability to completely deactivate its devices.²⁵ In an attempt to address the proliferation of Starlink terminals in Russia, Ukrainian authorities announced in March 2024 that only devices registered with the central government would work in occupied territories or near the front lines, but, "It isn't clear when those new rules will take effect or how they will be enforced."²⁶

The potential influence exerted by Mr. Musk over US foreign policy and recent comments that appear to indicate an indifference to US national security concerns raises questions. In October 2022, Mr. Musk took to Twitter to share his proposed "peace plan" for the Russian war in

²⁰ CNN, "Ukraine relies on Starlink for its drone war. Russia appears to be bypassing sanctions to use the devices too," Nick Paton Walsh and Alex Marquardt and Florence Davey-Attlee and Kosta Gak, March 26, 2024, <https://www.cnn.com/2024/03/25/europe/ukraine-starlink-drones-russia-intl-cmd>.

²¹ Wall Street Journal, "Ukraine Says Russia Is Using Starlink at the Front Line, Prompting Pushback From Elon Musk," Ian Lovett and Micha Maidenberg, February 11 2024, <https://www.wsj.com/world/russia/russia-using-musks-starlink-at-the-front-line-ukraine-says-516701f0>.

²² CNN, "Ukraine relies on Starlink for its drone war. Russia appears to be bypassing sanctions to use the devices too," Nick Paton Walsh and Alex Marquardt and Florence Davey-Attlee and Kosta Gak, March 26, 2024, <https://www.cnn.com/2024/03/25/europe/ukraine-starlink-drones-russia-intl-cmd>.

²³ Post on X by Elon Musk, February 11, 2024, <https://twitter.com/elonmusk/status/1756758674087825879?s=20>

²⁴ Post on X by Starlink, February 8, 2024, <https://twitter.com/Starlink/status/1755666250431443347?lang=en>.

²⁵ Wall Street Journal, "The Black Market That Delivers Elon Musk's Starlink to U.S. Foes," Thomas Grove and Nicholas Bariyo and Micah Maidenberg and Emma Scott and Ian Lovett, April 9 2024, https://www.wsj.com/business/telecom/starlink-musk-ukraine-russia-sudan-satellite-communications-technology-f4fc79d9?st=f5v89whyfofz1p9&reflink=desktopwebshare_permalink.

²⁶ *Id.*

Ukraine, a proposal that was not consistent with U.S. foreign policy goals.²⁷ Later reports have suggested that before Mr. Musk’s “peace plan” was released, he spoke directly with Russian President, Vladimir Putin.²⁸ Pentagon officials have admitted to giving deference to the tech billionaire, particularly regarding Starlink services. One key official indicated that “[e]ven though Musk is not technically a diplomat or statesman, I felt it was important to treat him as such.”²⁹ This problem is exacerbated not just by Mr. Musk’s personal wealth, but by the fact that SpaceX appears to have monopoly power over satellite internet access³⁰ and space payload delivery and passenger travel³¹ – a troubling national security problem.

DoD officials also appear to be throwing up their hands when it comes to reining in the national security threat posed by the sale and use of Starlink devices on the black market. Earlier this month, DoD Assistant Secretary for Space Policy John Plumb, said that. “I don’t think that DOD is in a position to make them [SpaceX] do these things, so I’ll just say that...[its] something we just have to bake in and understand.”³² These are troubling comments: DoD officials must not shirk from addressing these national security risks.

It is imperative that the Department of Defense hold its contractors accountable for any mismanagement or illegal acquisition of its hardware and services by hostile actors. To address my concerns about this matter, I request answers to the following questions by no later than 6/5/2024:

1. How many allegations of sanctions violations related to the use of Starlink have DoD, Treasury, or other administration officials investigated? What was the outcome of these investigations?
2. Does DoD’s contract with Starlink contain any prohibition against providing terminals to Russia or other sanctioned actors?
 - a. What are these specific prohibitions?
 - b. How are they enforced?
 - c. To what extent are DoD’s abilities to enforce these requirements complicated by Starlink’s monopoly on satellite internet access?
 - d. Is DoD planning to renew its contract with SpaceX?
3. Does DoD have an understanding of the tools that can be used by SpaceX to block Starlink terminals from being activated or used in occupied Ukrainian territory or in Russia, or by other sanctioned actors?

²⁷ NPR, “Elon Musk’s peace plan for Ukraine draws condemnation from Zelenskyy,” by the Associated Press, October 4, 2022, <https://www.npr.org/2022/10/04/1126714896/elon-musk-ukraine-peace-plan-zelenskyy>.

²⁸ The New Yorker, “Elon Musk’s Shadow Rule,” Ronan Farrow, August 21, 2023, <https://web.archive.org/web/20230916021605/https://www.newyorker.com/magazine/2023/08/28/elon-musks-shadow-rule>.

²⁹ *Ibid.*

³⁰ Space News, “The Accidental Monopoly,” Jeff Foust, October 13, 2023, <https://spacenews.com/the-accidental-monopoly/>.

³¹ CNN, “SpaceX gets \$1.4 billion contract for five more NASA astronaut launches,” Jackie Wattles, August 31, 2022, <https://www.cnn.com/2022/08/31/tech/nasa-spacex-crew-launches-contract-extension-scn>.

³² Defense One, “Pentagon can’t force Starlink to block service to Russians, US official says”, Audrey Decker, April 10, 2024, <https://www.defenseone.com/threats/2024/04/pentagon-cant-force-starlink-axe-service-russians-us-official-says/395637/>.

- a. Can DoD confirm that Starlink has barred any terminals that are not registered with the Ukrainian government from operating near the frontlines or in occupied areas?
 - b. Can Starlink use “geofencing” to do so?
 - c. Is Crimea “geofenced”?
 - d. Can the “roam” feature of Starlink terminals be turned off or used by Starlink to limit use in these unauthorized areas?
 - e. Is DoD confident that SpaceX is using all of these tools to their full capacity?
4. Does DoD have the capacity to limit Russian forces use of Starlink, independently of any action by the company?
 5. Has DoD assessed the impact of Starlink’s April announcement regarding the two-month limit on the use of the roam feature? If so, does DoD believe this action will be sufficient to address the use of Starlink by Russian and other sanctioned forces?
 6. Is DoD aware of any instance(s) where Starlink has deactivated a terminal as a result of a violation of the user agreement?
 7. Where have these deactivations taken place?
 - a. Is DoD providing technical or other assistance to enforce Ukraine’s mandate on the accessibility of registered devices?
 - b. When will this mandate take effect and how will it be enforced?
 8. What steps has DoD taken to address the use of Starlink terminals in Sudan by the RSF?

Sincerely,



Elizabeth Warren
United States Senator