

## **Factsheet: 2024 emergency supplemental will not transform munitions production**

*Can we send the level of weaponry we've sent for the last 18 months? We simply cannot. No matter how many checks the U.S. Congress writes, we are limited there.*

--U.S. Senator JD Vance at the Munich Security Conference, February 18, 2024

The key strategic challenge the United States faces in Ukraine remains the same regardless of whether the 2024 emergency defense supplemental passes. The war consumes far more matériel than the United States can produce under any plausible scenario over the coming years, and the war kills far more men than Ukraine can mobilize and train over the coming years. The logic of scarcity demands that we adapt our strategy in Ukraine, expeditiously seek to broker a reduction in violence between Ukraine and Russia, and reassess our strategy in Ukraine with a view to preserving our capacity to respond to an Indo-Pacific contingency.

The 2024 emergency defense supplemental dedicates \$5.3 billion to 155mm artillery shell production, for instance, and \$1.5 billion to PAC-3 interceptors for Patriot batteries.<sup>1</sup> This investment will likely generate some production gains, but fails by orders of magnitude to facilitate meeting Ukraine's assessed munitions requirements now or in future.

### **U.S. Department of Defense statements on munitions stocks and drawdown authority**

While the U.S. Department of Defense has made regular use of drawdown authorities to address the gap between U.S. production and Ukrainian requirements with existing U.S. munitions stockpiles, this is a waning asset as the conflict enters its third year. On February 28, 2024, defense officials reportedly told CNN that the Department of Defense was considering tapping \$4 billion in Presidential Drawdown Authority remaining for the war in Ukraine.<sup>2</sup> As recently as February 20, a DOD spokesperson stated categorically it was an "absolute risk" to use this authority, citing national security concerns.<sup>3</sup> Proponents of further Ukraine aid may argue that passage of the 2024 emergency defense supplemental will enable the United States to release further matériel from existing stocks, but DOD statements suggest those stocks have already been drawn down to a level many national security officials consider seriously concerning. Despite some level of uncertainty about U.S. capacity to continue to supply the war from existing stockpiles, the war clearly consumes and will continue to consume far more matériel than the United States can produce under any plausible near-term scenario.

### **The impoverished state of the U.S. defense industrial base**

The war in Ukraine has exposed significant problems in the U.S. defense industrial base that will require five to ten years to rectify on current trends.<sup>4</sup> U.S. defense production is stretched across complex supply chains: the HIMARS and GMLRS supply chain, for instance, includes 141

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<sup>1</sup> Actions – H.R. 815 – 118<sup>th</sup> Congress (2023-2024): "National Security Act, 2024." Library of Congress, February 13, 2024. Available at: <https://www.congress.gov/bill/118th-congress/house-bill/815/all-actions?s=2&r=1&q=%7B%22search%22%3A%22HR+815%22%7D>.

<sup>2</sup> Natasha Bertrand & Oren Liebermann, "Pentagon considering tapping last source of Ukraine military funding as Congress stalls on additional aid," February 28, 2024. Available at: <https://www.cnn.com/2024/02/28/politics/pentagon-considering-tapping-last-source-ukraine-funding/index.html>.

<sup>3</sup> Deputy Pentagon Press Secretary Sabrina Singh, Press Briefing, February 20, 2024. Available at: <https://www.defense.gov/News/Transcripts/Transcript/Article/3682022/deputy-pentagon-press-secretary-sabrina-singh-holds-a-press-briefing/>.

<sup>4</sup> Office of Senator Vance, "Factsheet: systems in short supply required by Ukraine, Israel, and Taiwan," *Politico*, October 19, 2023. Available at: <https://www.politico.com/f/?id=0000018b-b22c-da71-a98f-b3ff45d70000>.

cities and towns across 28 U.S. states.<sup>5</sup> U.S. defense production is constrained by a legacy of job cuts and streamlined production. In 1992, approximately 3.4 million Americans were employed by the defense industry across the United States; today, that number is roughly 1.1 million.<sup>67</sup> Taken together, complex value chains and workforce constraints create significant barriers to scaling the U.S. defense industrial base quickly in order to supply the war in Ukraine. Moreover, after surviving many boom-bust cycles, the U.S. defense industry seeks to avoid overinvesting in legacy systems or where it assesses high demand is a short-term phenomenon.<sup>8</sup>

A senior Ukrainian military officer recently assessed anonymously to western media:

*There's nothing that can help Ukraine now because there are no serious technologies able to compensate Ukraine for the large mass of troops Russia is likely to hurl at us. We don't have these technologies, and the West doesn't have them as well in sufficient numbers.<sup>9</sup>*

Our inability to supply the war in Ukraine is indicative of serious underlying capacity constraints.<sup>10</sup> As Bridge Colby argued in February:

*To be clear, the U.S. absolutely needs to make historic efforts to revitalize our defense industrial base, especially to grow our munitions stockpiles. But those who emphasize military realities above all should be clear-eyed about the constraints—industrial, political, and fiscal.<sup>11</sup>*

Key stockpiles are depleted and would require three to five years to replenish if we stopped sending weapons to Ukraine tomorrow.<sup>12</sup> Tangled networks of contractors and subcontractors create supply chain bottlenecks that limit our capacity to ramp up production. A legacy of outsourcing critical components and the associated loss of millions of defense-related jobs across the United States means we lack skilled labor. Finally, the immediate requirement to supply a major land war in Europe fails to address U.S. requirements in the Indo-Pacific theater.<sup>13</sup>

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<sup>5</sup> Steff Chávez et al., “How arming Ukraine is stretching the US defence industry,” *Financial Times*, January 31, 2023. Available at: <https://ig.ft.com/us-defence-industry/>.

<sup>6</sup> R. Theodore Roth, “The impact of decreased defense spending on employment in the United States,” *Armed Forces and Society*, vol. 18, no. 3 (Spring 1992), 383-405. Available at: <https://www.jstor.org/stable/45305326>.

<sup>7</sup> Congressional Research Service, “The U.S. defense industrial base: background and issues for Congress,” CRS Report R47751, October 12, 2023. Available at: <https://crsreports.congress.gov/product/pdf/R/R47751>.

<sup>8</sup> Steff Chávez et al., “How arming Ukraine is stretching the US defence industry,” *Financial Times*, January 31, 2023. Available at: <https://ig.ft.com/us-defence-industry/>.

<sup>9</sup> Jamie Dettmer, “Ukraine is at great risk of its front lines collapsing,” *Politico EU*, April 3, 2024. Available at: <https://www.politico.eu/article/ukraine-great-risk-front-line-collapse-war-russia/>.

<sup>10</sup> Natasha Bertrand and Katie Bo Lillis, “Western officials warn munition shortages could be catastrophic for Ukraine as US stalls on providing more aid,” *CNN*, April 5, 2024. Available at: <https://www.cnn.com/2024/04/04/politics/ukraine-munition-shortages/index.html>.

<sup>11</sup> Elbridge Colby, “U.S. hawks must finally get real about China,” *Time*, February 20, 2024. Available at: <https://time.com/6696552/u-s-hawks-china-threat-essay/>.

<sup>12</sup> Mark Cancian, “Rebuilding U.S. inventories: six critical systems,” *Center for Strategic and International Studies*, January 9, 2023. Available at: <https://www.csis.org/analysis/rebuilding-us-inventories-six-critical-systems>.

<sup>13</sup> Eric Gomez, “To better support Taiwan, push Europe’s defense industry to do more for Ukraine,” *Breaking Defense*, January 12, 2024. Available at: <https://breakingdefense.com/2024/01/to-better-support-taiwan-push-europes-defense-industry-to-do-more-for-ukraine/>.

## The United States cannot produce enough anti-air interceptors or 155mm shells

### *PAC-3 Interceptors*

Lockheed Martin currently produces 550 PAC-3 interceptors for the MIM-104 Patriot surface to air missile system annually, set to increase to 650 under the 2024 supplemental.<sup>14</sup> Ukraine likely possesses three Patriot batteries manned by Ukrainians, judging from press reports, and these batteries can easily consume 160 interceptors per month.<sup>15</sup><sup>16</sup> This suggests the annual baseline requirement of Ukrainian Patriot batteries is at least 1,920 PAC-3 interceptors. The United States produced about 2,000 PAC-3 interceptors between 2017 and 2022, according to public-facing Department of Defense data.<sup>17</sup> A substantial proportion of existing stocks have likely already been transferred to Ukraine, judging from U.S. efforts at the end of 2023 to backfill additional U.S. shipments to Ukraine through the transfer to the United States of a small number of Japanese interceptors.<sup>18</sup> As the chart below illustrates, increasing the rate of production from 550 to 650 PAC-3 interceptors per year is almost certainly marginal at best to Ukraine's assessed annual requirement of thousands of interceptors.

### *155mm Artillery Shells*

The United States currently produces nearly 30,000 155mm artillery shells per month, up from 14,000 at the beginning of the war.<sup>19</sup> According to press reports, the United States had supplied Ukraine with over 2 million 155mm shells by the end of 2023, reflecting significant drawdowns of U.S. and partner 155mm stockpiles.<sup>20</sup> Press reports have highlighted supply constraints affecting the U.S. ability to supply Ukraine and Israel at the same time.<sup>21</sup> Through 2023, the U.S. Department of Defense announced progressive efforts to expand 155mm shell production, with a goal of producing 85,000 per month by 2026.<sup>22</sup><sup>23</sup><sup>24</sup> The 2024 supplemental would contribute a further \$5.3 billion to expand production to 100,000 155mm shells a month by the end of 2025.<sup>25</sup> Ukraine's own assessed requirement is a maximum of over 7 million 155mm

<sup>14</sup> Jen Judson, "Ukraine, Mideast conflicts place renewed pressure on Patriot units," *Defense News*, December 13, 2023. Available at: <https://www.defensenews.com/land/2023/12/13/ukraine-mideast-conflicts-place-renewed-pressure-on-patriot-units/>.

<sup>15</sup> Joseph Trevithick and Thomas Newdick, "We now know the types of Patriot missiles being used in Ukraine," *The Drive*, August 10, 2023. Available at: <https://www.thedrive.com/the-war-zone/we-now-know-the-types-of-patriot-missiles-being-used-in-ukraine>.

<sup>16</sup> Maxim Tucker, "How US Patriot defences are reducing 'unstoppable' Russian missiles to shrapnel," *The Times*, August 4, 2023. Available at: <https://www.thetimes.co.uk/article/russian-bombers-us-patriot-surface-to-air-missiles-ukraine-dh6x8vcgn>.

<sup>17</sup> U.S. Department of Defense, "Fiscal Year 2024 Budget Estimates: Missile Procurement, Army," March 2023. Available at: <https://www.asafm.army.mil/Portals/72/Documents/BudgetMaterial/2024/Base%20Budget/Procurement/Missile%20Procurement%20Army.pdf>.

<sup>18</sup> Ellen Nakashima, Michelle Ye Hee Lee, & Alex Horton, "Running short on Ukraine air defenses, U.S. looks to Japan," *The Washington Post*, December 19, 2023. Available at: <https://www.washingtonpost.com/national-security/2023/12/19/us-japan-patriot-missiles-ukraine/>.

<sup>19</sup> Sam Skove, "It takes Europe at least a year to fill a Ukrainian order for artillery shells," *Defense One*, February 13, 2024. Available at: <https://www.defenseone.com/threats/2024/02/newly-ordered-european-155mm-shells-take-year-or-more-reach-ukraine-estonian-official-says/394146/>.

<sup>20</sup> Sam Skove, "Ukraine's artillery supply declines as shells go to Israel," *Defense One*, November 17, 2023. Available at: <https://www.defenseone.com/policy/2023/11/ukraines-artillery-supply-declines-shells-go-israel/392130/#:~:text=The%20U.S.%20has%20delivered%20over,Russia's%20invasion%20to%2028%2C000%20now>.

<sup>21</sup> Barak Ravid, "Scoop: U.S. to send Israel artillery shells initially destined for Ukraine," *Axios*, October 19, 2023. Available at: <https://www.axios.com/2023/10/19/us-israel-artillery-shells-ukraine-weapons-gaza>.

<sup>22</sup> Mike Stone, "U.S. aims to make 100,000 artillery shells per month in 2025, US official says," *Reuters*, September 15, 2023. Available at: <https://www.reuters.com/business/aerospace-defense/us-aims-make-100000-artillery-shells-per-month-2025-us-official-says-2023-09-15/>.

<sup>23</sup> Jen Judson, "US Army eyes sixfold production boost of 155mm shells used in Ukraine," *Defense One*, March 28, 2023. Available at: <https://www.defensenews.com/digital-show-dailies/2023/03/28/us-army-eyes-six-fold-production-boost-of-155mm-shells-used-in-ukraine/>.

<sup>24</sup> Jeff Schogol, "Army ramping up production of 155mm artillery shells next year," *Task and Purpose*, August 7, 2023. Available at: <https://taskandpurpose.com/news/army-increasing-155mm-artillery-shell-production/>.

<sup>25</sup> Josh Luckenbaugh, "Just in: Army modernizing, expanding munitions production facilities," *National Defense Magazine*, February 5, 2024. Available at: <https://www.nationaldefensemagazine.org/articles/2024/2/5/army-modernizing-expanding-munitions-production-facilities#:~:text=5..year%202024%20or%20early%202025>.

shells per year, with 4.2 million per year considered an operational minimum by Ukraine’s former Minister of Defense.<sup>26</sup> As the chart below illustrates, increasing the rate of production of 155mm shells from roughly one million to 1.2 million per year will be at best marginal to Ukraine’s assessed annual requirement of over 4 million 155mm shells.<sup>27</sup>

**Charting scarcity: U.S. anticipated PAC-3, 155mm production and Ukrainian requirements**



*The 2024 supplemental makes marginal contributions to Ukrainian anti-aircraft requirements.*



*The 2024 supplemental makes a marginal contribution to Ukraine’s requirement for 155mm shells.*

<sup>26</sup> Andy Bounds, “Ukraine asks EU for 250,000 artillery shells a month,” *Financial Times*, March 3, 2023. Available at: <https://www.ft.com/content/75ee9701-aa93-4c5d-a1bc-7a51422280fd>.

<sup>27</sup> Assessing total Presidential Drawdown Authority with or without the Ukraine supplemental is difficult because the quantity of stocks involved and the question of whether those stocks are available for transfer or not are classified.

## United States, Ukraine cannot avoid a major strategic dilemma heading into 2024

The 2024 supplemental makes improvements to U.S. defense production that are marginal to the scope of nearly limitless Ukrainian need. The United States is not on track to meet Ukrainian munitions requirements in the period 2024-26. The United States would need to undertake a major strategic pivot to prioritize defense industrial base development in order to be able to supply a major war three to five years from now. The 2024 emergency defense supplemental makes marginal improvements at best to the defense industrial base in order to expand existing projects already dedicated to assisting Ukraine.

The 2024 supplemental does not adequately address underlying challenges facing the defense industrial base and U.S. forces. Our efforts to retool the defense industrial base to meet Ukrainian requirements will train our defense industrial base to fight a land war in Europe, obscuring the very significant challenge we face in the event of an Indo-Pacific contingency. Provisions in the supplemental to bolster US capabilities in the Indo-Pacific and deter China fall short. U.S. production of the Tomahawk cruise missiles or SM-6 standard extended range active missiles, for instance, both vital to U.S. security in the Indo-Pacific, is inadequate to meet current needs, let alone a major Indo-Pacific contingency.<sup>28,29</sup> It is therefore inaccurate to claim that the 2024 emergency defense supplemental will remedy shortfalls in critical munitions, or that it makes significant new investments in the defense industrial base that will secure the homeland against a range of contingencies.

The United States faces the same strategic challenge whether or not the 2024 emergency defense supplemental passes: the war in Ukraine consumes far more military matériel than the west can produce, and it costs the lives of far more Ukrainians than Ukraine can mobilize.

Proponents of Ukraine aid have made a subtle rhetorical shift over the past year. They once argued that our support of Ukraine constituted only a fraction of our GDP, hardly a strain on our resources.<sup>30</sup> Now, they acknowledge our limited munitions manufacturing capacity, but claim that this limitation bolsters the argument for additional aid.<sup>31</sup> A common refrain is that the war has spurred the United States to rebuild our defense industrial base.<sup>32</sup>

This argument confuses weapons production with weapons provision. There is no principle of law, economics, or warfare that to manufacture weapons we must commit them to foreign wars. The war in Ukraine consumes more than we produce. Under even the rosiest projection well into the next presidential administration, every day we supply Ukraine is another day we dig ourselves deeper into the hole.

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<sup>28</sup> Mackenzie Eaglen, “Why is the U.S. Navy running out of Tomahawk cruise missiles?” *The National Interest*, February 12, 2024. Available at: <https://nationalinterest.org/blog/buzz/why-us-navy-running-out-tomahawk-cruise-missiles-209317>.

<sup>29</sup> Eric Lipton, “From rockets to ball bearings, Pentagon struggles to feed war machine,” *The New York Times*, March 24, 2023. Available at: <https://www.nytimes.com/2023/03/24/us/politics/military-weapons-ukraine-war.html>.

<sup>30</sup> “Western help for Ukraine is likely to diminish next year,” *The Economist*, September 21, 2023. Available at: <https://www.economist.com/briefing/2023/09/21/western-help-for-ukraine-is-likely-to-diminish-next-year>.

<sup>31</sup> Jonathan Lemire & Jennifer Haberhorn, “The White House is losing the messaging war on Ukraine. Now it’s changing the message,” *Politico*, October 25, 2023. Available at: <https://www.politico.com/news/2023/10/25/biden-ukraine-aid-messaging-00123466>.

<sup>32</sup> OMB Director Shalanda Young to House Speaker Mike Johnson, December 4, 2023. Available at: <https://www.whitehouse.gov/omb/briefing-room/2023/12/04/letter-to-congressional-leadership-regarding-the-need-for-urgent-action-to-support-ukraines-defense/>.