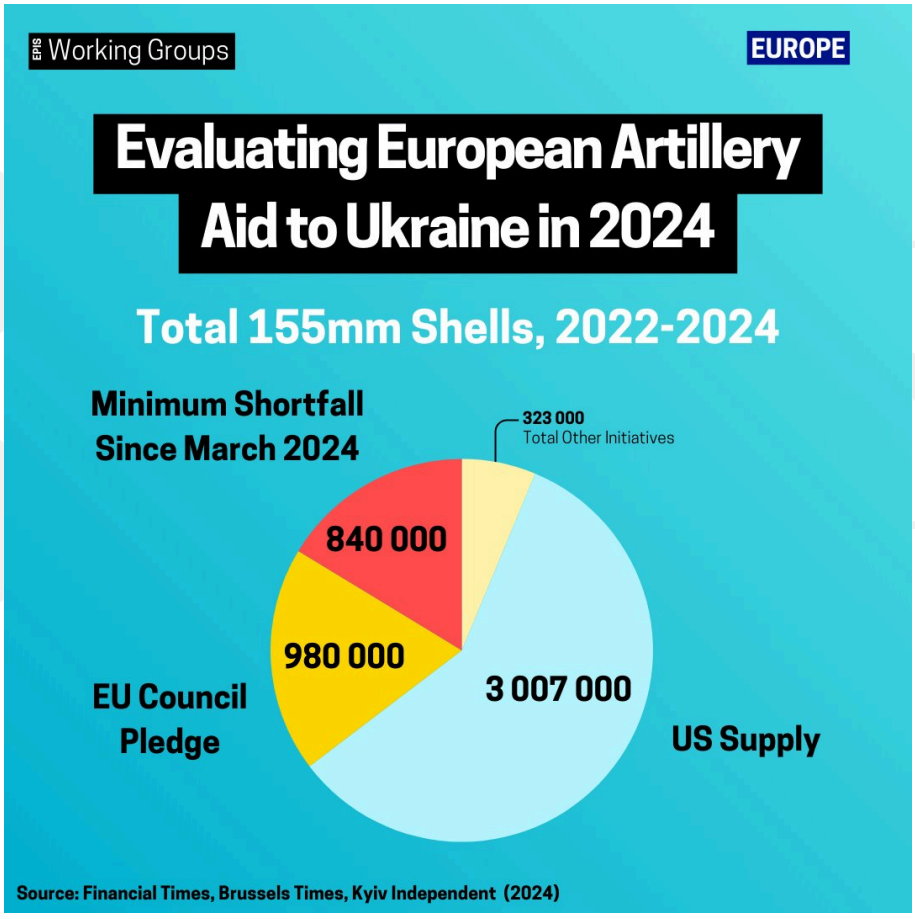
Evaluating European Artillery Aid to Ukraine in 2024

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"God is on the side with the best artillery."

During Ukraine's defence against Russia's full-scale invasion, Europe has been criticised for failing to use its vast economic advantage to bring God on to Ukraine's side. Certainly, Western artillery systems provided to the Armed Forces of Ukraine (AFU) have proven incredibly accurate and survivable, with none of the twenty German PzH 2000 yet destroyed. But their qualitative advantage is diminished without the ammunition to counterstrike.

Russian artillery has qualitatively dominated the AFU's throughout the war, once firing ten times more along the frontlines. For the AFU, an army whose artillery comprised around 90% of total fires by August 2023, ammunition deficits mean a reduced ability to stop assaults and suppress enemy artillery. Recognising the high intensity of the war early on, Ukrainian leadership had stressed the need for a robust supply chain for artillery ammunition. In March 2023, AFU officials estimated they needed at the very least 250,000 shells per month to compete with Russian forces—around 3 million per year—and 594,000 per month for the full potential of their artillery corps.

After the invasion, European nations surged existing stockpiles of Soviet 152mm ammunition to the AFU for its legacy systems. Hundreds of thousands of these shells were scrounged from countries like Bulgaria and Pakistan. 152mm supply is unsustainable, however, since accessible stockpiles in Czechia and Bulgaria were sabotaged before the war and the majority of European production is in the standard NATO 155mm calibre.

The AFU were therefore delivered various towed and self-propelled guns in 155mm, in addition to its own indigenous 2S22 Bohdana platform, to ensure sustainability in the long term. Then, in March 2023, the EU pledged the delivery of one million of these shells to Ukraine within a year. For reference, according to Seoul, North Korea has supplied Russia with perhaps 9,000,000 rounds since 2023.

The potential shortfall of ammunition supply, assuming the bare minimum monthly AFU requests were all 155mm and based on disclosed deliveries as of December 2024, can be seen in the chart above. The EU target was completely missed in March 2024, prompting German Defence Minister Boris Pistorius to ask for patience. After all, Europe's four largest producers (Rheinmetall, Nammo AS, CSG, and Nexter) were only scheduled to produce around 970,000 155mm shells in 2024. Including supplies from the US and other global producers, since March 2023 the AFU would have been 800,000 supplied shells short of even their minimum requirement (domestic supply of 155mm began in late 2024).

The prolonged deliveries caused a "shell hunger" throughout late 2023 and early 2024 that curtailed Ukrainian counteroffensives and contributed to rising casualties, with the absence of adequate fire support leaving defenders isolated against Russian assaults. Ukraine has increasingly adopted drone-delivered munitions to compensate, but despite widespread popular fascination with them, Ukrainian military officials have emphasised that drones cannot replace the high-volume firepower that artillery delivers and are vulnerable to electronic warfare.

Yet the deficit can still be reversed. Large South Korean reserves are still available if Seoul can be convinced. Politicians need to resolve or expedite administrative hurdles, in particular various environmental and local zoning regulations for artillery factories. For example, the city of Troisdorf has blocked the renovation of the Dynamit Nobel factory since December

2023. European governments should also encourage private sector investment with commitments to long-term procurement contracts. “If nothing is ordered for years,” said Olaf Scholz at the opening of an ammunition factory in February, “then nothing will be produced.”

Seized Russian assets could finance such contracts, as their revenues already do for some Western aid, but there is an incentive to invest Europe’s own funds as well. Not only would boosting production critically support Ukraine’s existential war effort and its leverage for eventual negotiations, it would also bolster Europe’s capacity to supply its own strategic autonomy. The best time to resolve artillery supply chain bottlenecks and ensure sustained support was three years ago; the second best time is now.

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