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**EASTERN EU MEMBERS REARM AFTER THE
RUSSIAN INVASION: SOARING MILITARY
EXPENDITURES, TANK MODERNISATION
AND TWO NEW RISING AXES OF ARMY
INTEROPERABILITY**

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War in Ukraine and its visible effects on military budgets in Eastern Europe

After the annexation of Crimea, every EU country that was either associated within the Warsaw Pact or part of the Soviet Union became a founding member of the Bucharest Nine (B9) initiative to discuss defence concerns in yearly summits (Krzysztozek et al., 2023). In those countries, now increasingly referred to as 'Europe's eastern flank' (Cieskin, 2022), allied military presence increased sevenfold to 300,000 units just four months into the Russian invasion (NATO, 2023; Siebold et al., 2022). Their unyielding defence intent, stated during NATO's summit in Vilnius, is reflected in B9's growing military spending (Cieskin, 2022; Bechev, 2022; Buchholz, 2023; SIPRI, 2023), which is bound to shape NATO's most prominent defence transformation and modernisation effort since the Cold War (Haynes, 2022).

Most notably, Hungary, Lithuania and Slovakia recorded a spike in their military expenditures, pushing it from below the Alliance's target (2.0%) to well over it. Latvia and Estonia, while already meeting the criteria, raised their budgets even further while Bulgaria made a big step towards the 2.0% threshold (Strzelecki et al., 2023). However, the real protagonist is Poland, whose Prime Minister Morawiecki claimed a near 300% increase over the 2015 military budget and plans to double the size of the armed forces to 300,000 personnel (Chancellery of the Prime Minister of the Republic of Poland, 2023; Ptak, 2023). Such a move would make Poland the largest relative military spender in NATO by percentage of GDP, even overtaking the United States.

This paper will now examine the progress of every Bucharest Nine member state in their rearmament and modernisation efforts with a specific focus on land forces, armoured fighting vehicles (AFVs), infantry fighting vehicles (IFVs) and main battle tanks (MBTs). In the concluding summary, a final analysis will highlight the two main paths eastern European allies are currently considering: German defence contractors and US/Korean armaments import.

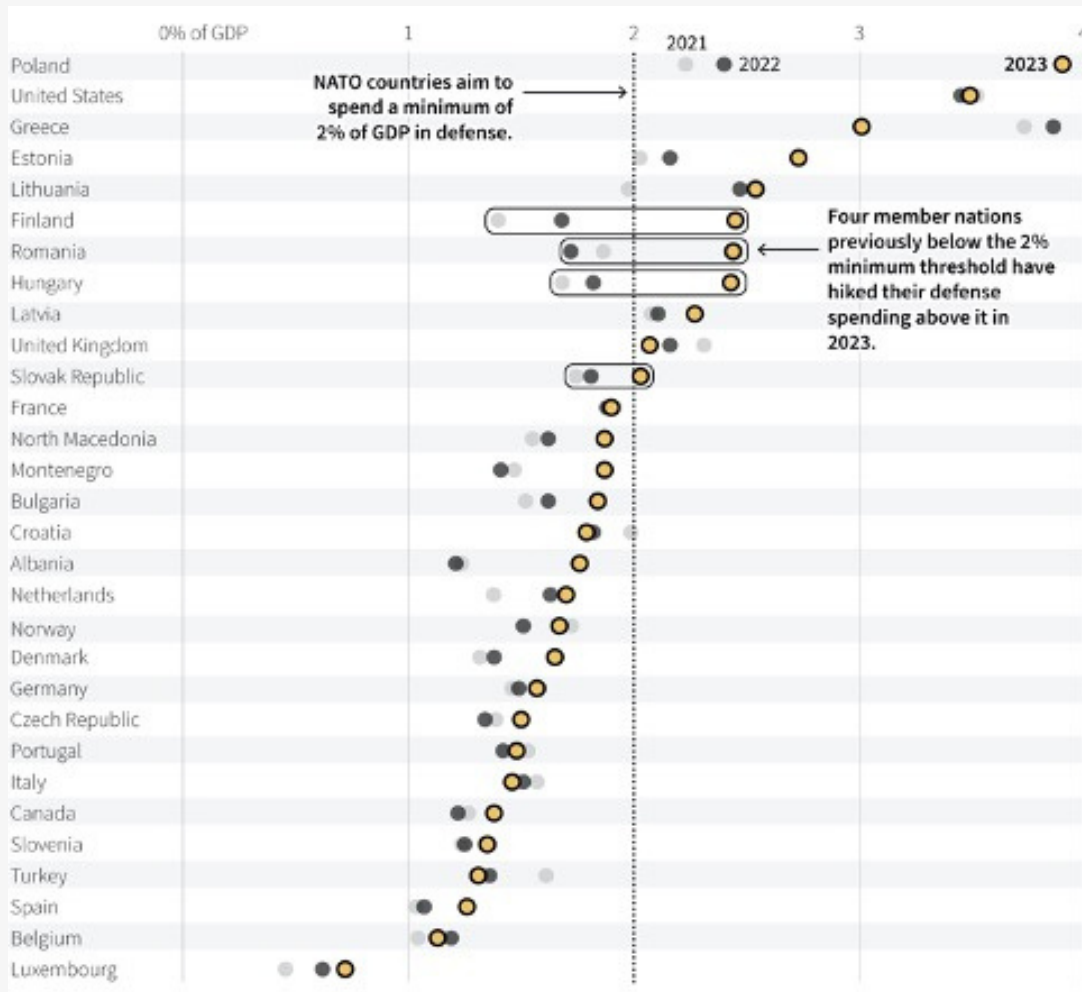


Figure 1 – NATO members’ military spending increase since 2021 (Figures as of June 23, 2023). Source: Strzelecki et al., 2023.

Polish rearmament and modernisation: Warsaw’s aspiration to build the most powerful land forces in Europe

In 2023, Poland’s GDP allocation to defence reached a record 3.9%, surpassing last year’s 3.0% target set by the Homeland Defence Act (Bechev, 2022; Ptak, 2023). Of this sum, several billion will contribute tackling Poland’s post-Ukraine donations lack of armoured vehicles by purchasing foreign equipment (Stronell, 2022). Warsaw offered Kyiv at least 240 T-72M1/M1R main battle tanks, with more on the way, essentially phasing out most of its Soviet-era MBTs (Świerkowski, 2023). This arms transfer did not happen without its considerations, as Poland was concluding its final purchase of 116 M1 Abrams from the United States, in addition to a previous order of 250 units. Through this deal, Poland aimed at modernising its tank army and assisting Ukraine simultaneously (Tilles, 2023).

The Polish military is currently the only one in the continent to operate this MBT, while Defence Minister Błaszczak has already claimed that his country 'will build the strongest land forces in Europe'[1] in two years' time (Tilles, 2023). Another first for Warsaw is the impressive purchase of 1000 K2 Black Panther MBTs from the Republic of Korea. PGZ and Hyundai Rotem will produce 820 of these tanks in Poland under the licensed designation K2PL starting in 2026 (Tiwari, 2023; Graf, 2022). The latter will be part of the WILK new generation MBT procurement framework, designed explicitly for Polish tank modernisation (Graf, 2022).

The improvement of the Polish tank fleet will have interesting consequences for European army interoperability, especially because Warsaw's long-term plan is to rely exclusively on M1 Abrams, K2 and WILK-derived K2 tanks while progressively retiring German-made and widely European-operated Leopards (Czulda, 2022). According to Hyundai Rotem, the K2 tank is designed to be interoperable with US Army forces deployed in the Korean peninsula and thus complies with NATO Generic Architecture (GVA) (Graf, 2022). Nonetheless, it is crucial to note that Europe's aspiring most powerful land army has shifted its interoperability and technology-sharing focus outside the continent.

Romanian rearmament and modernisation: the next import champion for Korea and the US?

Poland will not be the sole European operator of M1 Abrams tanks for long. Earlier this year, Romania revealed plans to purchase a battalion (up to 54 units) of M1A2 Abrams (Adamowski, 2023b; Ilie, 2023). The Romanian tank fleet is amongst the largest in Europe, albeit one of the most outdated. Romania's MBT, the TR-85M1, is a modernised version of the TR-85, which entered service in 1986 based on the Soviet T-55 from 1954 (Roblin, 2023; Army Recognition, 2023b). For this reason, Bucharest expressed interest in purchasing 300 more foreign-built tanks to reinforce the M1A2 Abrams battalion mentioned above.

After the success in Poland, Hyundai Rotem is particularly interested in filling the demand with its K2 tanks, while also promoting its K9 Thunder self-propelled [PK1] howitzers for similar purposes (Catalin, 2023). In July, Seoul's embassy in Bucharest, in fact, organized the 'Republic of Korea - Romania 2023 Defense Industry Cooperation Conference' with those specific objectives in mind (Catalin, 2023; Army Recognition, 2023c). Nevertheless, Romania is yet to officially elect said foreign MBT for its 300-unit demand. Other stakeholders, like Germany's Leopard 2A8, are still likely candidates (Army Recognition, 2023b). The possible consequences of Romania's next move are strictly connected with Polish rearmament as the two largest militaries in B9 could happen to modernise using the same technology, but coming from outside the Union. The potential effects on European interoperability will be duly analysed in concluding paragraph.

[1] 'Zbudujemy najsilniejsze wojska lądowe w Europie' (Witoszka, 2023)

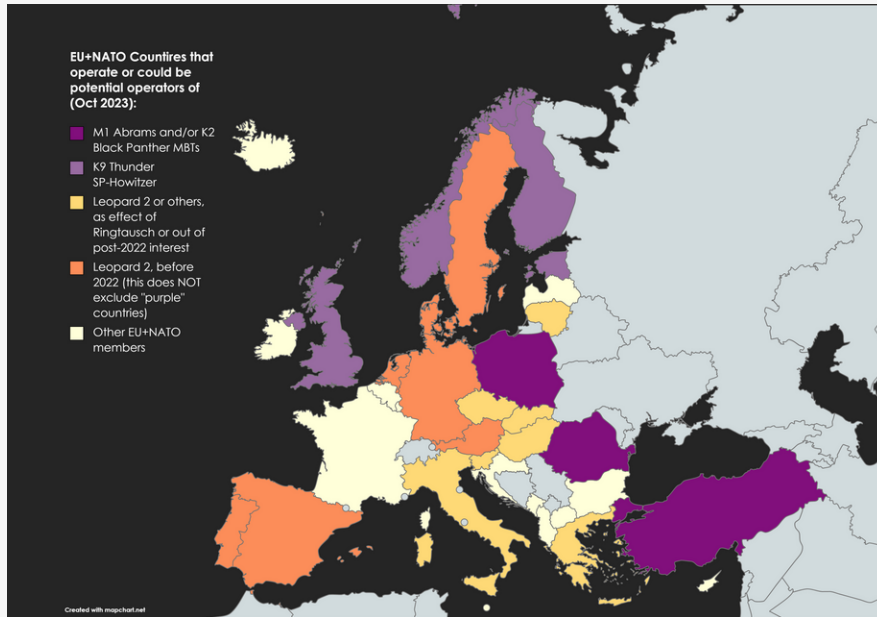


Figure 2 – EU and NATO members’ adoption of US and Korean Black Panther MBTs and K9 Thunder Howitzers over Leopard 2 tanks. “Purple” countries may also be Leopard 2 users. This map is just an illustrative summary not to be interpreted as a definite statement on states’ nuanced approach to rearmament. Sources: Rheinmetall, Hyundai Rotem, General Dynamics (Data as of 9 October 2023). Map produced by the Author using mapchart.net.

Hungarian rearmament and modernisation: new partnerships with German defence giants

Hungary’s tank fleet is relatively small and obsolete. It consists of about 120 unmodernised T-72M1 MBTs based on Soviet technology from the 1970s (Czulda, 2022). This need for innovation is one of the reasons behind the Hungarian government’s decision to launch the Zrínyi Force Modernisation Programme in 2017 (Nagy, 2021; European Defence Agency, 2022). Since the beginning of the initiative, Budapest purchased 44 German Leopard 2A7+HU MBTs along with five Wisent 2 combat engineering rescue vehicles, three Leguan bridge launchers and an extra vehicle for training purposes (Hungary Today, 2023c). Training-wise, the Hungarian army had already acquired a company of older 12 Leopard 2A4s for crew teaching purposes in 2020 (Petrov, 2023). The first Leopard 2A7+HU, meanwhile, was already delivered in August (Hungary Today, 2023c).

As a testimony to the Hungarian-German collaboration, this summer, Prime minister Viktor Orbán inaugurated a new Rheinmetall plant in Zalaegerszeg (Hungary Today, 2023b). Hungary will build there 209 Lynx KF41 infantry fighting vehicles in seven variants, 18 support vehicles, including the Bergepanzer 3 Büffel armoured recovery vehicle and 38 military trucks (Rheinmetall, 2023; Hungary Today, 2023a). Latest news from Rheinmetall even revealed that the factory will shortly be capable of assembling Germany’s newest super-tank, the KF51 Panther. However, its potential service in the Hungarian army is unclear at this point in time (Meta-Defense, 2023). In addition, Rheinmetall is building another 150-hectare production centre in Várpalota that will specialize in heavy ammunition (Rheinmetall, 2023 ; Czulda, 2022).

To sum up, Budapest clearly opted to rely on German expertise and export-proven Leopard tanks. Hungary is not alone in this choice, as many other limited-size EU militaries with Soviet-era equipment follow the example.

Czech and Slovak rearmament and modernisation: donations to Ukraine in exchange for German Leopards in the Ringtausch programme

The Czech Republic and Slovakia chose similar strategies to address both arms donations to Ukraine and tank modernisation necessities at the same time. That is, sending Soviet-era MBTs and infantry fighting vehicles to Kyiv while receiving Leopard 2s by Berlin for free under the greater Ringtausch German arms swap strategy (European Defense Review, 2023). Ringtausch will be further discussed in the conclusions.

Sources claim that Prague has supplied Kyiv with a minimum of 89 modernised T-72, around 226 IFVs and other heavy weaponry (Lopatka et al., 2023). Also, it appears that the Czech Republic is leading a multilateral effort to donate Ukraine modernised T-72s under the designation T-72EA via private defence contractor Excalibur Army, with capital investments from the United States, the Netherlands and Denmark (Odessa Journal, 2023, Ukrainska Pravda, 2023). According to some sources, at least 20 of 90 ordered T-72EA had already been shipped abroad by January 2023 (Army Recognition, 2023a; CZ Defence, 2023), with 17 more sent over by April 2023 (Ukrainska Pravda, 2023).

In return, Prague has received 14 Leopard 2A4 tanks from Germany 'in appreciation of the Czech Republic's assistance to Ukraine' (Kolařík, 2023), the same model sent to Hungary and Slovakia. After the outbreak of the war in Ukraine, Czechia started further negotiations with Berlin's MoD to acquire around 77 Leopard 2A8 in 6 versions (Kolařík, 2023; European Security and Defence, 2023). Prague also greenlit the purchase of 246 Swedish CV90 IFVs in May 2023 (Lopatka, 2023).

As mentioned above, Slovakia followed a similar path (Czulda, 2022). Indeed, Bratislava sent 30 BVP-1 IFVs to Kyiv, for which it is receiving 15 Leopard 2A4 from Germany (Salerno-Garthwaite, 2023; Muller, 2023). Moreover, at the beginning of the year, the Ministry of Defence hinted that it would be open to transferring all 30 of its operating T-72 to Ukraine, provided it meant receiving more modern MBTs from its allies (Militarnyi, 2023). However, future remains unclear, as Robert Fico recently won the elections in Slovakia campaigning against sending arms to Ukraine on a not-so-veiled appeasement platform towards Russia.

Baltic and Bulgarian rearmament and modernisation: the efforts of smaller B9 members

Between 2016 and 2019, Tallinn purchased 44 CV9035 infantry fighting vehicles and now plans to repurpose 37 CV90 Mk1 IFVs for nine different support roles (Czulda, 2022). Estonia is also among the countries which are importing heavy weaponry from the US and South Korea - HIMARS launchers (6 units) and K9 Thunder howitzers (36 units), respectively (Adamowski, 2023a).

Meanwhile, Latvia is undergoing its most extensive armed forces modernisation effort to date, as shown by a recent order from local defence contractor Patria of 200 6×6 armoured personnel carriers (Czulda, 2022; Malyasov, 2021).

Lithuania is the Baltic nation which invested the most in its rearmament. In 2022, Vilnius started negotiating the purchase of 120 Vilkas 8×8 IFVs from ARTEC, a Rheinmetall and KMW joint venture, to double its pre-existing fleet of 91 units acquired in 2016 (Ares Osservatorio Difesa, 2023; Czulda, 2022). Lithuania's MoD recently sought renewed German collaboration with the purchase of 54 Leopard 2 tanks (Giansiracusa, 2023), consequently becoming the only Baltic nation planning to buy new MBTs.

Bulgaria is in the process of deciding the future of its land forces. In September 2023, it signed a deal with the US Department of State to purchase of 183 Stryker armoured fighting vehicles. Moreover, modernised T-72s are reportedly under development (Hill, 2023; Czulda, 2022).

Conclusions: Germany's Ringtausch and US and Korean manufacturers as the two new axes of European interoperability

To achieve the same goal of arms modernisation, B9 states now face two possibilities: either embrace Germany's Leopard 2, which is now becoming an informal 'Eurotank' for central and eastern Europe or rely on extracontinental rapidly available expertise from the United States and South Korea.

The two largest militaries in B9, Poland and Romania, may choose the latter. Such a move could lead to a bizarre situation of imported armament interoperability between Warsaw and Bucharest. However, this may come at the expense of neighbouring allies that recently swapped Soviet-made armaments, which were interoperable with old Polish and Romanian technology, for new Western, but European, weapons. On this matter, in fact, Berlin responded with an alternative three-way winning strategy consisting in its Ringtausch (circular exchange) programme: Leopard 2 earlier models are shipped free of charge to eastern EU members in exchange for sending their readily available and easily crew-interoperable Soviet-era tanks/IFVs to Kyiv. Berlin, consequently, solves the political problem of arms transfer to Ukraine and successfully 'advertises' its LEOBEN network of 22 Leopard users (KNDS, 2023; Kolařík, 2023) to potential clients who may end up purchasing the tanks, as Prague did. So far, Germany has applied this scheme to Czechia, Greece, Slovenia and Slovakia, with separate considerable investments in Hungary and Lithuania (German Aid to Ukraine, 2023; Mackenzie, 2022).

To conclude, the only certainty over the past two years is that eastern members of the EU began their final phase of transition from Soviet-made armaments to Western equipment. As a result of the consequent greater harmonization of the general technology standardisation doctrine, it could be argued that the interoperability of European land forces has been strengthened. Still, the fact that one of its largest militaries, Poland, opted for solutions outside the Union, is not ideal from a European perspective as other eastern allies might follow suit.

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