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The European Land Force Commanders Organisation

FINABEL - THE EUROPEAN LAND FORCE COMMANDERS ORGANISATION

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1. Introduction

Since the Second World War, tanks, especially in the form of the Main Battle Tank (MBT), have been one of the most iconic weapons in modern warfare. However, their efficacy to face new difficulties have been subject to criticisms and doubts. This is a debate that has once again flared up in light of recent conflicts, namely the Russia-Ukraine War and the Azerbaijani-Armenian War in Nagorno-Karabakh. Both these conflicts have shown instances of tanks being alarmingly exposed to newer technologies, especially drones. However, armies, including the Ukrainian and Russian armies, continue to actively seek to acquire more tanks, seeing them as a vital tool on the battlefield despite all the challenges and criticism (Lee, 2022).

To understand whether tanks can continue to play an important role in contemporary and future warfare, this paper will examine the new threats facing tanks, assess their performances on modern battlefields, and discuss what kind of adjustments are necessary to adapt to new conditions with respect to the European tank development and defence. As Europe rearms and seeks to strengthen itself against the possibility of the military threat from Russia, tanks are a crucial element of land war and will make up an important part of that rearmament. While European governments seem to have broadly recognised that, ongoing tank modernisation efforts face significant challenges. Tank and MBT will be used interchangeably in this paper due to the predominance of the MBT as the main type of tank in contemporary militaries.

2. Technical Aspects of MBTs

Before discussing further aspects, it is important to understand what a tank is and what it does. In its most basic essence, a tank is "a land weapon system that combines firepower, protection and mobility" (Paier, 2023). Tanks combine these three elements better than any other land system (Fürst, 2025). Naturally, heavy armour overlaps in features with other types of armoured fighting vehicles (AFV), such as medium or light armour. There is no standardised distinction between medium and heavy armour, and Russian MBTs tend to be significantly lighter in weight than their Western counterparts (Reynolds, 2023). Nevertheless, the high amount of protection in heavy armour definitively distinguishes it from other vehicles (Reynolds, 2023). It is highly important to mention what should be axiomatic to military thinkers, namely that no matter their characteristics, tanks are not meant to stand alone and require effective combined arms support to fulfil their roles, being left quite vulnerable without it, regardless of the protection system itself (Cranny-Evans, 2024). Producing, maintaining, and employing heavy armour requires a great investment of resources and technical skills. The cost can be so prohibitively expensive that this aspect represents a challenge even to the best-resourced militaries (Reynolds, 2023). Despite the incredible logistical and financial challenge, however, they remain in great demand.

This is because of what tanks contribute both on a battlefield and outside of it. Outside of battle, tanks can work as a significant component of deterrence. The armoured formations of NATO became the cornerstone of defence plans and deterrence against the Warsaw Pact

during the Cold War in Europe. In addition, tanks have substantial symbolic power as symbols of national might or commitment to peace missions (Buzzard et al., 2023). Most important, however, are the benefits of tanks in war. Simply put, tanks allow commanders to take the initiative and generate a unique momentum through the shock effects they create when employed correctly (Buzzard et al., 2023). Furthermore, they can seize targets, respond quickly to enemy actions, and destroy opposing defences (Reynolds, 2023), and are critical for offensive operations (Paier, 2023). Contrarily, MBTs can destroy heavy armour, maintain momentum, and turn offensive operations into breakthrough-and-exploitation, inducing systemic collapse through overrunning the enemy's rear areas (Reynolds, 2023). Lastly, the mere presence of tanks forces the enemy to divert resources and attention to respond to their threat (Buzzard et al., 2023). Tanks have also proven effective in defence, through counterattacks or blocking the enemy (Nistorescu, 2024). Overall, tanks are invaluable assets in land war, and their unique combination of firepower, protection, and mobility is a crucial strength, especially in offensive actions to win territory.

3. New Technological Threats to Tanks

The proven performance of tanks and the strength of their armour have been challenged in more recent conflicts through the introduction of new technologies. However, it is important to assess these weapons by acknowledging their effectiveness without engaging in sensationalism, or predetermined conclusions about their future development in the face of ever-evolving battlefield tactics, technology, and countermeasures. One threat that is not new, but has become more lethal, are the Anti-Tank Guided Missiles (ATGMs). Before the Ukraine War saw Unmanned Aerial Vehicles (UAV) proliferate on both sides, the ubiquity of ATGMs had already been significantly challenging for tanks in conflicts of the past decade (Bruchmann, 2024). ATGMs are the most serious threat to tanks in direct combat, and newer, more sophisticated ATGMs have become harder to counter, especially the top-attack varieties. In Ukraine, for example, infantry attacking tanks with ATGMs sustained many casualties (Reynolds, 2023). However, these ATGMs are not cheap or convenient to employ due to their size and weight, unlike tank's main gun which reloads much faster. ATGMs, while certainly a threat to tanks, are therefore no tide-turning wonder weapon that renders the tank obsolete.

UAVs represent the truly new threat to tanks in the 2020s. However, there is a variety of UAVs and their employment is subject to continuous changes on the battlefield. There are two ways in which UAVs have made tanks vulnerable: attacking from above and reconnaissance. Disregarding technological sensationalism, one is left with simply the concept of attacks from above, which is not a new threat in modern warfare (Fox, 2025). To some extent, this threat has already been mitigated when it comes to the larger drones, like the Bayraktar, which have generally been sidelined since the early phases of the Russo-

Ukrainian war in favour of smaller First Person View (FPV) drones (Fox, 2025). When it comes to tanks, FPV drones are not used in direct attacks, as they are limited in the payload they can carry. Instead, their value lies in reconnaissance. These drones have made the battlefield in Ukraine so transparent that tanks (and other forces) can be easily targeted with artillery, and as a result offensives are stifled by the inability to concentrate forces for assaults (Rickli & Mantellassi, 2024). In general, offensive manoeuvres have become prohibitively costly because of reconnaissance drones (Biddle, 2023). The real tank-killer in Ukraine, enabled by the reconnaissance and target identification, has been artillery, which is not a cheap technology unlike drones (Lee, 2022). Artillery has become more deadly because tanks are now targeted outside of the usual direct-fire zone (Losacco, 2023). While UAVs are invaluable in artillery targeting, the survival rate for drones is extremely low (Rickli, 2024). Finally, it should be added though modern heavy armour was designed to fight past threats, the top-armour of tanks remained weaker since top-attack threats were not as prevalent back then, yet it has still stood up well to FPV drones outside of artillery targeting (Cranny-Evans, 2024). In summary, FPV drones and their reconnaissance abilities have created a vastly more lethal battlefield for tanks and other military elements alike. However, they have not rendered tanks obsolete. The bigger drones like Bayraktar have quickly lost their spot in the limelight. New technological threats to tanks are therefore to be taken very seriously, but not to be exaggerated.

4. The Performance of Tanks in Modern Wars

To address the question of heavy armour's relevance in modern and future warfare, it is necessary to look at its performance in recent wars, for example, the Russo-Ukrainian War, the Azerbaijani-Armenian War over the region of Nagorno-Karabakh, as well as in asymmetrical wars, such as the Israel-Gaza War, and the Yemeni Civil War. The Russo-Ukrainian War provides the most recent and extensive example of heavy armour in modern peer-to-peer warfare since both sides experienced massive tank losses. In particular, Russia lost a huge number of heavy tanks at the beginning of the war, which were not due to flaws in the tanks themselves, but rather, resulted from a combination of poor logistics, planning, and training, as well as blatant ignorance for axiomatic lessons of warfare. In the early days of the war, Russia sent tanks without combined arms or infantry support, which left them vulnerable and exposed (Losacco, 2023). The fact that tanks are dependent on effective combined arms has been well-known and recognised since WWII (Cranny-Evans, 2024). Russia's losses are therefore unsurprising. Furthermore, possibly up to half of Russian losses were not actually due to tanks being destroyed, but because poorly trained and unequipped tank crews abandoned them. The fuel consumption of the tanks played a significant role in deciding which tanks were abandoned, meaning that Russian Armed Forces' logistics were also poor (Lee, 2022). Vastly contrasting performances between different tank units in the Russian army further indicates the important role of crews (Lee, 2022). Many of the most disastrous tank losses for Russia in Ukraine, therefore, cannot be blamed on the tank itself,

but rather the failure to employ it correctly and protect it.

Furthermore, rather than being a story of pure failure, tanks have been prominent in both offensive successes and failures in the war (Biddle, 2023). In general, tank-on-tank engagements rarely occur, with tanks being used primarily as an indirect fire platform to make up for artillery shortages, or to create breaches in enemy defences. They continue to be limited in their offensive use by the general dispersal of the necessary infantry support, which is forced through the transparency FPV drones have created on the battlefield (Fürst, 2025). Ukrainian offensives further faltered due to the its inability to establish air superiority and counteract Russian artillery, which once again left tanks vulnerable in their attempt to breach carefully prepared defensive lines (Cranny-Evans, 2024). Most Russian armour losses continue to be a result of poor maintenance and logistics (Reynolds, 2023). On the other hand, Western armour used by Ukraine has proven to be more sustainable, allowing for crew survivability, as well as the recovery and repair of the vehicles. (Reynold, 2023). The fact that tanks are still an important weapon in this war is further illustrated by both countries' efforts to continue acquiring more tanks (Lee, 2022).

The Azerbaijani-Armenian War further emphasises the importance of tanks in modern warfare. Azerbaijan achieved a huge advantage precisely because it was able to achieve air superiority to destroy the Armenian tanks, which were also proved to be critical in penetrating the Armenian defences. It is no coincidence that Azerbaijan's breakthrough occurred in the flat terrain of the South where tanks could be used most effectively. The Azerbaijani victory in the war was closely related to its ability to protect its own tanks, while Armenia failed to do the same (Lee, 2022). Azerbaijan employed Bayraktars, which were only used after Azerbaijan had overwhelmed Armenia's anti-air defences, demonstrating the necessity of air supremacy to create the conditions under which tanks can perform best (Nistorescu, 2024). In a similar manner, for example, Saudi tanks were vulnerable to Houthi forces in Yemen but tended to win engagements whenever they had close air support. Saudi tanks were often also vulnerable when kept in a stationary position, a general problem for tanks, especially with modern threats. Israeli tanks outfitted with the Trophy Active Protection System greatly increased their survivability when stationary, enabling the Israelis to effectively use their tanks even in the urban environment of Gaza with almost no tank losses despite encountering threats like FPV drones (Cranny-Evans, 2024). These examples further illustrate that tanks continue to be crucial for offensives and territory control, and that their weaknesses can be offset by tried-and-true combined arms and air support, while systems like Trophy provide a way to address newer threats.

5. The Future of Tank Design

It should therefore be apparent that tanks are not obolete and, in fact, still desirable

weapons in modern warfare. However, it is also apparent that they, too, must continually change and adapt to new conditions. Observations about the lessons of the current war in Ukraine could indicate a future where lighter forces disperse frequently, implying a much lesser role for tanks, if any. However, such a vision is disputable and hypothetical (Reynolds, 2023). While there are trends, there is also no true consensus among experts about the ideal future of the MBT. The pattern in military thinking is to prepare for the last war, although the next war will once again look and work differently (Baker, 2025). This is natural, as future wars are hard to predict, but it does mean that a certain caution and conservatism needs to be applied before reacting drastically to current observations. Nevertheless, some areas of consensus can be found. For example, it's clear that future MBTs will need to incorporate protection against UAVs and similar threats. For this, active protection systems with both hard-kill and soft-kill abilities are suited to advance its ability to protect against attacks from above, which is absent in the current systems developed and employed by Israel and Russia respectively. Electronic warfare (EW) measures, whether provided by systems on the tank itself, or by separate vehicles, will also be required (Fürst 2025). The need for active protective systems is also widely recognized (Bruchmann, 2024; Fürst, 2025; Gat, 2023; Losacco, 2023; Cranny-Evans, 2024).

Another common theme is that the weight of MBTs must be reduced or avoided, with MBT weights already high (Gat, 2023; Reynolds, 2023). Furthermore, regarding weight and additional systems intended for future warfare, some consider future MBTs to be accompanied by additional vehicles, including unmanned ones, not to replace the MBT but to enable it to continue to play its traditional role (Fürst, 2025; Reynolds, 2023). However, there are also noticeable differences in opinion regarding similar issues. For example, while some consider unmanned vehicles to be viable for Western countries to deal with low personnel numbers in the future (Fürst, 2025), others consider the reduction in crew numbers only for MBT to be undesirable (Reynolds, 2023). The tank's main armament, the question of whether the main gun should become bigger in Western tanks than the current standard 120mm, is also subject to debate. The broad spectrum of voices, from those advocating for radically rethinking the tank as antiquated to those seeing the need for more minor adjustments complimenting its traditional role, is too extensive of a discussion to be replicated here. However, it is apparent that this is an ongoing process. Looking at the current state of tank development in Europe can provide answers as to how European arms makers and governments see this debate, and what options are being considered as viable.

6. European Tank Projects

The current state of modern tank development in Europe is diffuse. There are currently four viable projects for the creation of a new tank. These are the Franco-German Main Ground

Combat System (MGCS), Rheinmetall's KF-51 Panther, the EU-funded MARTE between several EU member states, and the Main Battle Tank Platform System (MBTPS) between several European countries. Notably, Germany is involved in all these projects in a leading role. This is not surprising considering that the German Leopard MBT is the basis of 47% of MBTs operated by EU-member states and the only European tank to be exported on the continent (Borsari, 2023). However, this fact also casts doubt about the viability of the MGCS, which has long been in development – causing it to be revived and altered at various points and became a subject of disagreement between Germany and France. It should be noted here that other examples of Franco-German military development cooperation have not been particularly successful either. While the MGCS is supposed to be an all-new platform, Rheinmetall's Panther serves both as a less ambitious upgrade and improvement to the Leopard, privately developed by the company, as well as a likely way to express its dissatisfaction with the company's position within MGCS (Newdick, 2022). Similarly, Germany's decision to get involved in further European tenders could be seen as a signal to France about Germany's dissatisfaction with MGCS, and past initiatives involving Germany and Italy, like the alternative to MGCS would be, which have proven more fruitful (Borsari, 2023). Differences and disagreements between governments and companies, for example, between Rheinmetall and KNDS, could continue to pose significant challenges to the development of the European MBT in the future. Due to their relative newness, MARTE and the MBTPS are harder to assess, as little details are known, but it stands to reason that they represent alternatives or competitors to MGCS.

Though these concerns are valid and highly important for European strategic autonomy and military power, these projects provide insight into two aspects: the strong interest in developing tanks and the technological improvements governments are interested in. Currently, MGCS envisions a platform of three vehicles, some unmanned, together with an MBT. Long delays may ultimately prove beneficial as lessons from Ukraine can be incorporated more in the long term. While the success of MGCS is highly desirable for European strategic autonomy and continued relevance in tank manufacturing, it is also apparent that in the meantime most armies will field a mix of more modern and older models in a transition phase (Tarasov, 2025). Furthermore, it is apparent that European governments and manufacturers have identified certain elements that they want in a new tank. There seems to be a consensus that new tanks should be lighter, have a bigger and more powerful main gun, carry stand-in surveillance and loitering munitions (Newdick, 2024). The need for APS is also clearly identified. The German and British armies, for example, have purchased Israeli Trophy systems to upgrade older tanks (Gat, 2023, p. 5). Rheinmetall will also fit the Panther with its own StrikeShield APS (Newdick, 2022). There is no doubt that such systems will form part of any future MBT development. Nevertheless, despite the positive fact that European countries recognise the enduring value of tanks, are still actively pursuing their further development, and have recognised necessary priorities, the division into several competing projects poses significant challenges. In this context, it is surprising that so far there has been relatively little interest in the Panther outside of Italy and Hungary,

which represents a highly advanced bridging solution that can be available for European defence far sooner projects such as MGCS and MARTE.

7. Conclusion

While tanks have certainly taken a heavy beating in recent conflicts, a prudent assessment of their performance in the context of other factors, not just technological sensationalism, reveals that they continue to be powerful and necessary weapons when employed correctly. Armies throughout the world have understood this despite the naysayers, continue to seek to expand and improve their MBT stocks, recognising the invaluable role tanks play in taking and holding territory. To achieve more than a standoff-warfare stalemate, such weapons are fundamental to fighting and winning wars. Lessons should furthermore be drawn from not only the technological threats on the modern battlefield, but the mistakes in planning, training, tactics, and strategy committed by those forces who took heavy tank losses, but more specifically, lessons that reinforce the importance of combined arms operations, air support, and thorough logistical, training, and planning preparation.

Tanks, like other military elements, have been challenged significantly by the ubiquity of UAVs. However, there are ways to overcome this challenge, and they will continue to improve – further indicating that with proper adjustments tanks will once again play a more effective role on future battlefields. In this context, it is a positive development that many European countries are now actively investing into tank acquisition and development. However, considering the timespan required for these projects, their diffusion across various groups of countries, and political differences hampering these projects, the situation seems precarious. It is crucial for European strategic autonomy and the reality of a military threat in the upcoming years from Russia, that European governments and manufacturers work efficiently to overcome these differences lest these projects falter. In the shorter term, it should be recognised that it is still crucial to acquire more tanks that might not be as perfectly suited as those envisioned for the 2040s or 50s like the MGCS. Whether upgrading older platforms for optimal performance or investing in a platform that can be available sooner and can act as a bridging option, like the Panther, these are necessary both for deterrence and the case of actual warfare. Hence, European cooperation and unity are vital in this endeavour.

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