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Opinion Paper

100/2025 28/11/2025

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Origin and theoretical basis of the multi-domain war and its application on the Ukraine war

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Abstract:

Throughout History, the technological progress has been one of the main factors in encouraging change in different military doctrines. The appearance of new intelligence and logistic systems or weaponry favour the rise of new applications that often shape warfare and lead to revision and renewal of those doctrines. In the past, the emergence of the machinegun, the airplane or the tank were key to move from a positional warfare to a mechanized one. Decades after, the nuclear weapon completely modified the picture of international security and ended up in revising global defence strategies. Recently, conflicts such as the Ukrainian Russian war have proved the obsolescence of the current combined arms warfare and the urgent need of a new approach exemplified in the Mutli-domain doctrine.

Keywords:

Combined arms warfare, multidomain, Ukraine War, military doctrine, military technology.

How to quote:

SAURÍN, Daniel. *Origin and theoretical basis of the multidomain war and its application on the Ukraine war*. Opinion Paper. IEEE 100/2025. web link IEEE and/or link bie[3] (accessed on the web day/month/year)

Introduction

The involvement in an armed conflict poses different problems to the opposing armies: supply, materiel, production, training, teaching and so on. Among those factors, military technology, its employment, and the doctrinal basis that shapes them are closely related, resulting in a positive or negative situation, depending on their synergy on the battlefield.

According to Barry Posen[1], military doctrine can be considered as an element of strategy that deals exclusively with military aspects. In this sense, it is the preferrable way of an army, or its different branches, to fight in armed conflicts. In this way, it reflects different factors, such as military thinking at that moment, the consideration of what is feasible or even the political context. Furthermore, these aspects can be influenced by technological innovation, possible adversaries´ capabilities, geography or available means. In the end, all this rests on the fighting forces.

Alex Roland deems that technology can modify warfare, though he admits that it is not a decisive factor; it simply opens a door to multiple possibilities[2]. The importance of technology was also highlighted by Paul Kennedy, who thought that those powers with the greatest industrial and technological capacity usually prevail over the rest[3].

The bond between doctrine and technology can be studied on several occasions through history. For instance, the invention of the tank lead to the development of new doctrines that changed the battlefield. In the same way, the appearance of military aviation meant the concern for a new dimension on the battlefield, the air supremacy, involving new ways to reconnaissance, attack and transport, among many others. Not only is it about the rise of new technologies and their application on warfare, but also their cooperation and integration with the rest of the existing branches, forcing armies to study deeply the best way to employ their units.

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[1] POSEN, Barry R. *The Sources of Military Doctrine. France, Britain, and Germany between the world wars*, Londres, Cornell University Press, 1984, pp. 13-14.

[2] ROLAND, Alex, *War and Technology*. Foreign Policy Research Institute, 27 de febrero de 2009. En: https://www.fpri.org/article/2009/02/war-and-technology/.

[3] KENNEDY, P. *The Rise and Fallo f the Great Powers.* Nueva York: Random House, (trad. *Auge y caída de las grandes potencias.* Barcelona: Plaza y Janés, 1994), 1987, p. 14.
For further study regarding economy and technology in a conflict, the following paper can be referred: Pérez Gil, L. y Saurín Martínez, D. «Tecnología y economía de guerra en el conflicto de Ucrania», cuaderno de trabajo n.º 5-2024, Academia Nacional de Estudios Políticos y Estratégicos (ANEPE), 2025: https://anepe.cl/portfolio/cuaderno-de-trabajo-n5-2024/.

In recent years, the technological innovation and its new employment on different armed conflicts has made armies ponder about current military doctrines. Like one century ago, we are currently facing a transitional phase in which research and innovation are shaping the approach to armed conflicts. In the middle of this debate, the concept of multi-domain war rises as the most consistent proposal, considering all the innovations happening.

Nevertheless, this new concept is deeply rooted in several concepts already developed decades ago. The main goal of this paper is to analyse the theoretical and historical basis that supports the multi-domain war, and how this can be shown in ongoing conflicts. Moreover, it studies innovation and the use of new technologies as paramount factors in the appearance of new doctrines. To do so, it draws from the study of the Soviet deep battle and the German mechanized warfare, and the invention of new means adapted to their principles, both developed during the inter-war period (1919-1939). After that, a brief review of the operation «Desert Storm» will be done to understand the change from mechanized warfare to air-land warfare. Finally, the main features of multi-domain war will be explained, with an analysis of the Ukraine war too.

The Soviet doctrine of the Deep battle

The understanding of the deep battle (*gluboky boi*) must be done from the knowledge of the soviet concept of operational art. During the last century´s twenties, after the Russian involvement in the First World War, the overthrow of the tsar and the outbreak of a civil war afterwards, several groundbreaking military thinkers arose, who presented very different alternatives to the current military strategy that was predominant within the great powers of the time.

Alexander Svechin was aware about the need of presenting a new approach to military strategy and tactics[4]. Firstly, he rejected the decisive battle, stating that the battle was not a single engagement between infantry units, but a result of a combined operation of both men and equipment against the enemy´s. In this sense, he pointed out the economic and industrial factors of war, highlighting relevant subjects such as the required time for total economical mobilisation of a country, its industrial capacity and the time it could be

[4] SVECHIN, A. *Estrategia*, Moscú, Voennyi vestnik, 1927, pp. 82, 137 y 147.

running at maximum efficiency before a total collapse due to an inability to keep up with the effort.

On the other hand, understanding the constant military and technological evolution, consequence of the appearance of new technologies (aviation, gas warfare, tanks, and so on), he realised that the conditions that determined the result of events in past wars had disappeared. He asserted that, only in rare occasions, military maneuvers and experiments were to prove the reality of a hypothetic future conflict. What´s more, he considered combat operations, war fronts, the length of engagements, ammo consumption or numerical superiority in certain sectors as too complex elements to be calculated in peace times, championing the necessity of an active preparation.

To sum up, he defined the concept of operational art pointing that «it refers to a set of tactical missions and logistic requirements according to the objective of the operation»[5]. Accordingly, it shows the general course of action for an operation, taking into consideration different factors: available material, time to execute the missions, forces that can be deployed in a specific front and the nature of the mission itself, always acknowledging the superior value of the operation over the decisive battle.

This point of view involved a totally different approach to warfare. Therefore, both technology and military thinking had to adapt themselves to a changing scenario. The speed was one of those factors to think about. The military thinker Vladimir Triandafillov, on the same page as Svechin, stated that the correct path to develop the operational art had to follow the premise of total employment of one´s capabilities, to cause devastating losses to the enemy. This speed had to be combined with enough units, without which the operational art could not be executed properly: «one clearly must recognize that only such massing of forces and artillery provided the capability to achieve tactical success»[6].

Thus, throughout the twenties, the operational art settled down progressively in the Soviet military thinking. Nonetheless, the doctrinal revolution had to come with proper means that exploited fully the new teachings. Triandafillov stressed on several occasions the relevance of fast tanks and off-road motorized vehicles that cut enemy withdrawals and achieve a tactical encircling. This way, the operational art, boosted by technological

[5] SVECHIN, A., *Estrategia*, Op. Cit., p. 83.
[6] TRIANDAFILLOV, V. K. *Nature of the Operations of Modern Armies*, Moscow, State Publishing House, Military Literature Section, 1929, pp. 100 y 149.

innovation, mass production and a new tactical approach, became the new official Soviet doctrine from 1929 to 1937.

Plans to equip the Red Arny with the proper materiel began, to prepare them to face a new scenario. The offensive was considered the most important aspect, which any maneuver was based on. The combination of both offensive and speed made armoured and mechanized formations inevitably very attractive, specially through the eyes of marshal Mikhail Tukhachevsky. He reflected on the employment of different arms to get through the enemy front, including motorized infantry units, self-propelled artillery, airborne troops and bombers. This preference over offensive was contrary to Svechin thesis, who was more inclined to attrition warfare, in which an army opposed to another through a greater industrial and economical capacity, to keep up with the war effort in the long term[7].

This way, deep operations and the continuity of engagements were the foundation of the concept of deep battle. Focusing on this, Tukhachevski deemed the existence of up to four assault waves for the execution of an attack, all in a frame that considered three different areas: rear, front and enemy depth. The first wave consisted of fighters and bombers, to obtain air superiority in every aspect; secondly, the shock wave had to break the enemy front by employing different arms; the third wave then had to get through the breach and exploit the success, gaining as much terrain as they could and surprising the enemy; finally, the last wave needed to secure the terrain acquired[8].

The echelonment of operations was also defended by brigade commander (*kombrig* in Russian) Georgii Isserson, who defined it as «the sequential and continuous increase of operational efforts aimed at breaking enemy resistance through its whole depth»[9]. He was also keen on mechanized and motorized formations to execute deep operations, although he kept defending the cooperation with traditional cavalry. In his view, the nature of operations would be determined by modern, fast, mobile and efficient technological means.

[7] SVECHIN, A., *Estrategia*, Op. Cit., p. 291.
[8] VLAKANCIC, P. J. «Marshal Tukhachevsky and the `Deep Battle´: An Analysis of Operational Level Soviet Tank and Mechanized Doctrine, 1935-1945», *The Land Warfare Papers* 14, 1992, p. 2.
[9] ISSERSON, G. S. The Evolution of Operational Art, Kansas, Combat Studies Institute Press, 1936, pp. 57-58.

Deep battle and operational art were written down on the Soviet provisional field regulations of 1936, known as *Vremennyy Polevoy Ustav* (*RKKA 1936* or *PU-36*). Mechanized forces were defined as combat teams «based on tanks, self-propelled artillery and infantry in personal carriers, able to fulfil independent missions both alone and in cooperation with other branches»[10]. On the other hand, tanks were thought to take part in offensive, defensive and counterattack operations. They were deemed as very mobile and powerful units, with great offensive capacity, able to carry out infantry support missions, destroy stationary weapons and backup units, front breaching, disrupt the enemy depth by destroying command posts and warehouses, block withdrawals or act as artillery units.

As a result, different tanks were developed according to their function on the battlefield. Thus, there were close infantry support tanks (*Nieposredstviennoy Poddierzkhi Piechoty*), long support tanks (*Dalshey Poddierzkhi Piechoty*) and fast tanks to be used in depth (*Dulnogo Dieystviya*)[11]. The first (T-26) and the second ones (T-28 and T-35) were to support the infantry assault in a range between one and a half and two and a half kilometres, while the third ones (BT tanks) had to exploit the breach once done. During all this process, a mass concentration of forces was required to guarantee the success, as well as bold initiative from commanders in both tactical and operational levels[12].

Therefore, not only did soviet leaders dramatically modify their approach to military tactics and strategy, but they also adapted their industry and economy to get ready. The acceptance of the basis of the deep battle and the operational art involved the need of resources that assured their development and readiness whether at war or in peace. Tukhachevski also highlighted the close relation between modern warfare and the importance of being able to sustain it[13].

In addition, soviet military theorists were convinced of the relevance of a great army. Triandafillov stated that small forces, though motorized, could not conquer modern states. In line with him, Isserson rejected the idea of small professional armies, pointing that they

[10] *PU-36*, 1936: p. 4 (*Provisional Field Regulations for the Red Army*, Foreign Broadcast Information Service, Springfield, 1986).
[11] VLAKANCIC, P.J. «Marshal Tukhachevsky and the `Deep Battle´: An Analysis of Operational Level Soviet Tank and Mechanized Doctrine, 1935-1945», Op. Cit., p. 3; HARRISON, R. W. *Architect of Soviet Victory in World War II. The Life and Theories of G.S. Isserson*, London, McFarland and Company Inc. Publishers, 2010, p. 76.
[12] *PU-36*, Op. Cit., p. 45; ISSERSON, G.S., Op. Cit., p. 66.
[13] McPADDEN, C. P. "Mikhail Nikolayevich Tukhachevsky (1893-1937): Practitioner and Theorist of War", *The Land Warfare Papers* 56W, 2006, p. 14.

did not meet the requirements of the time. Even Svechin warned about the importance of a numerous army, calculating that the invasion of Moscow would require nearly one and a half million men, though he also recognised the progressive technification of armies and hence the importance of an effective instruction[14].

However, the concepts of the operational art and the deep battle were suddenly rejected from mid-1937 on, when Stalin ordered the execution of Tukhachevski. Along with him, other advocates of the new teachings perished during the Stalinist purges, which lasted until 1941[15]. Among them, there was Svechin, who was executed in 1938[16]. It was not until two decades later when, in the context of the de-Stalinization process, when the operational art and the deep battle were subject of revision due to the impact of the nuclear bomb[17].

The role of the *Panzer* in the German mechanized warfare

It has to be borne in mind that both German tactics and strategy in the first half of the XX Century were strongly influenced by the following concepts: firstly, *Schwerpunkt*[18] or the concentration of troops in a decisive point; secondly, *Kesselschlacht* or "pocket or pot battle", in which the encircling maneuver played a key role in the destruction of enemy resisting pockets. Both terms were fully developed with the German technological progress of the twenties and the thirties.

During the twenties, general Hans von Seeckt was the main promoter of the German army modernization. He was reluctant to mass conscription armies, aspect that was against the soviet theories. From his point of view, masses were slow and could not maneuver properly. This led to what he called «conflict between man and materiel», and to establish the difference between human masses and one´s skill. In summary, new technologies were contrary to great amounts of troops. Nevertheless, according to von

[14] TRIANDAFILLOV, V. K. *Nature of Operations of Modern Armies*, Op. Cit., p. 27; ISSERSON G.S. *The Evolution of Operational Art*, Op. Cit., p. 41; SVECHIN, A. *Estrategia*, Op. Cit., pp. 208-209.
[15] VLAKANCIC, P.J. «Marshal Tukhachevsky and the `Deep Battle´: An Analysis of Operational Level Soviet Tank and Mechanized Doctrine, 1935-1945», Op. Cit., p. 4.
[16] Alexander Hill did a detailed work of the Soviet Army in the Second World War and the Stalinist purges. For further reading, refer: HILL, A. *The Red Army and the Second World War*. Cambridge, 2017.
[17] VLAKANCIC, P.J. «Marshal Tukhachevsky and the `Deep Battle´: An Analysis of Operational Level Soviet Tank and Mechanized Doctrine, 1935-1945», Op. Cit., pp. 29-30.
[18] This concept was first coined by Prussian military theorist Carl von Clausewitz in 1832.

Seeckt, the only possibility rested on the human effort against «lifeless materiel». Therefore, his solution was having a small but highly qualified and mobile army, able to neutralize the enemy in little time: «The greater the advance of technical science, the more effectively can it devote its inventions and instruments to the service of the army and the higher will be the demands it makes on the soldier who manipulates these technical aids»[19].

He understood the close relationship between technology and the new doctrinal development. This way, to achieve maximum mobility for the army, mechanization and motorization were to be taken into account. This new use of technology, with the principles of mobility inherited from the Prussian culture, was called «combined arms», in which the general included the cooperation of «aviation and tanks, along with traditional arms -infantry, cavalry, artillery and sappers-"[20].

Von Seeckt thinking was written down on the German field service regulations of 1921 (*Führung und Gefecht*), which emphasized the principle of cooperation among all arms and advocates for speed and mobility. What´s more, it included the possibility of employing lorries for carrying infantry and carrying out pursuits, artillery motorization and the use of armored vehicles to act as armoured support[21]. These were the foundations of the doctrinal development through the next decade.

The rise of Hitler came with the beginning of an intense rearmament process from 1935 on. In this context, the German army had to organize and equip itself following the basis set in the last decade, thanks to von Seeckt´s work. During this, it is worth stressing the role of the Army Chief of Staff (*Chef des Generalstabes des Heeres*), general Ludwig Beck (*Generaloberst* in German). Under his leadership, around the end of 1935, the Armoured Troops were established (*Panzertruppen*), with its own command structure and organised to fulfil missions independently.

[19] VON SEECKT, H. *Gedanken eines Soldaten*, Berlin: Verlag für Kulturpolitik (translated to English by Gilbert Waterhouse (1930): *Thoughts of a Soldier*, Londrés: Ernest Benn Limited, 1927, pp. 55-59.

[20] MUÑOZ BOLAÑOS, R. «*Gott Mit Uns:* La Organización del Reichsheer durante la República de Weimar (1919-1933)», 2016, available at: https://www.researchgate.net/publication/309733749_GOTT_MIT_UNS_LA_ORGANIZACION_DEL_REICHSHEER_DURANTE_LA_REPUBLICA_DE_WEIMAR_1919-1933_GOTT_MIT_UNS_THE_ORGANIZATION_OF_REICHSHEER_DURING_THE_WEIMAR_REPUBLIC_1919-1933.

[21] DiNARDO, R. L. «German Armour Doctrine: Correcting the Myths», *War in History*, n. º 4, vol. 3, 1996, pp. 387-388.

The figure of Beck was paramount in the tactic and strategic conception of *Panzerdivisionen*. These units were key to develop the German doctrine, strongly based on mobility. On one hand, he warned about the importance of keeping up-to-date technology and a good stockpile, «due to the rapid aging of these devices and the high proficiency needed for these units, if one should be inclined to commit the large expenditure»[22].

On the other hand, he stressed the relevance of a great number of tanks, taking advantage of surprise and meeting different roles, as well as the cooperation with other arms. He stated that a frontal attack against a similar enemy could barely be considered a success without armoured support. In this sense, he justified the creation of motorized divisions to count with fast and manoeuvrable units for operational employment, always ready to get on the move, with the same capabilities as the infantry divisions[23].

Nevertheless, not all the German officers agreed with Beck´s view. For instance, general (*Generalmajor*) Oswald Lutz and lieutenant colonel Heinz Guderian advocated for a more independent employment of armoured units[24]. Guderian stated in *Achtung Panzer!* that some regarded infantry as «the decision maker» and expressed his opinion pointing that tanks had to prioritise «the destruction of the enemy anti-tank defences and suppress or blind the enemy artillery»[25].

Beck was cautious when dealing with doctrinal matters, mainly due to his duty to watch for the whole German army, not only for the motorized and mechanized troops[26]. Moreover, he had to take into consideration economical and industrial difficulties resulted from the ambitious German rearming plan. In 1935, he reckoned that Germany would need only to defend itself 63 divisions and one and a half million men[27]. In spite of this,

[22] Report from general Beck, 30th December 1935, in JENTZ, T. L. *Panzertruppen. The Complete Guide to the Creation and Combat Employment of Germany´s Tank Force 1933-1942*, Atglen, Schiffer Military History, 1997, p. 24.
[23] Report from general Beck, 1935-1936, in Jentz, T.L. *Panzertruppen. The Complete Guide to the Creation and Combat Employment of Germany´s Tank Force 1933-1942*, Op. Cit., pp. 24-26.
[24] HABECK, M. R. *Storm of Steel: The Development of Armor Doctrine in Germany and the Soviet Union, 1919-1939*, New York, Cornell University Press, 2003, p. 194.
[25] GUDERIAN, H. *Achtung Panzer! The Development of Tank Warfare*, Londres, Cassell Military Paperbacks, 1937, pp. 220-221.
[26] HABECK, M.R. *Storm of Steel: The Development of Armor Doctrine in Germany and the Soviet Union, 1919-1939*, Op. Cit., p. 221.
[27] Beck, 1935, in HABECK. M.R. *Storm of Steel: The Development of Armor Doctrine in Germany and the Soviet Union, 1919-1939*, Op. Cit., p. 218.

both Beck, Lutz and Guderian shared the same principles of mobility, depth and mass employment.

This way, German military doctrine was written down in the field regulations of 1933 called *Truppenführung*. It still reviewed traditional concepts such as depth, encircling and high mobility, but using the advantages brought by technological innovations. In this aspect, armoured troops played a leading role to breach and exploit the success thanks to their mass employment. Therefore, although basic German doctrinal aspects did not change, the use of new technology did end up in a different and innovative approach in every aspect.

Two examples in the World War Two are helpful to understand the German mechanized warfare and its basis. First of all, during the France invasion in May 1940. The majority of the *Panzerdivisionen* broke through the Ardennes and Sedan towards the English Channel, aiming to isolate as many allied troops as they could in Belgium. The mobility of mechanized and motorized units, air superiority and the advantage of surprise allow the advance of the German armies at a pace never seen. Ten days only after the invasion, on the 20th of May, the XIX *Panzer* Corps advanced ninety kilometres from the Northern Channel to Abbeville, while the XLI *Panzer* Corps made it to Hesdin, thirty-six kilometres north from Abbeville[28]. This maneuver meant the encircling of the allied troops fighting in Belgium, who were shocked by the German mobility.

The second example can be found on the first weeks of Operation Barbarossa (June-July 1941). Specifically, German forces achieved great success during their advance across Belarus and Ukraine. Following the tactics of envelopment and encircling, especially the concept of *Kesselschlacht,* German land forces, supported by the *Luftwaffe*, advanced towards the East, leaving resisting pocket in the rear that were dealt by slower units. Soviet pockets, particularly those in Bialystok, were problematic, and posed a challenge, where counterattacks such as the one in Grodno were repelled partially thanks to air support[29]. Nonetheless, the breaches in the Soviet front were exploited by German forces, like the advance of Guderian´s *Panzergruppe 2* in Brest[30], isolating the Soviet units from the rest of the Red Army. This way, in approximately a week, the bulk of the

[28] MACKSEY, K. *Guderian: Panzer General*, Barnsley, Frontline Books, 2003, pp. 157-158.
[29] FORCZYK, R. *Tank Warfare on the Eastern Front 1941-1942. Schwerpunkt*, Barnsley, Pen & Sword Books Ltd, 2013, pp. 88-89.
[30] HALDER, F. *War Journal of Franz Halder* (translated to English), Kansas, Fort Leavenworth Archive, 1941, p. 165.

Soviet western army lost great losses, and, by 3rd of July 1941, the pockets of Bialystok were cleared up according to the principles of German mechanized warfare.

The transition from the airland doctrine to a multi-domain scenario

After World War II, military doctrines evolved considering the same principles of depth, mobility and mechanized forces developed during the inter-war period. The appearance of new arms technology, such as ballistic missiles, nuclear weapons or the helicopter, came with more complexity in military tactics and strategy. Certain elements were subject of change, like the depth of operations, the cooperation of all arms on the battlefield or logistics. Hence, following the same basis, the combined arms warfare evolved into what was named as «airland battle», which could be defined as the combined use of all arms and available resources to fulfil a mission in every level.

This perspective was written down in the 1982 American *Field Manual* 100-5, which sectioned the operations ground in three different areas[31]. Firstly, there is the rear, deemed as the control zone of units, where deployment and logistics matters are managed. Secondly, the close area, where engagements with the enemy occur. This area is in constant dispute, and operations at tactical level are developed here. Finally, after breaking through the enemy lines, there is the depth or, in other words, the enemy rear area, where success must be exploited to push enemy troops to the collapse and therefore be victorious.

According to Perkins, this doctrine still relies strongly on the «integrated support of all arms and services, to include integration of airpower for attacking the enemy echelon»[32]. The implementation of these foundations happened in the Gulf WAR, during operation *Desert Storm*, between January and February 1991.

After an exhaustive preparation (named operation *Desert Shield*), the international coalition offense was divided into four phases. During the first two of them, air forces had to achieve superiority at both strategic and operational level, specifically over Kuwait. Objectives were several, having to destroy supply lines, anti-air systems and units of the

[31] PERKINS, D. G. «La Batalla multidominio. Impulsando el cambio para ganar en el futuro», Military Review, 2018, p. 46. On https://www.armyupress.army.mil/Journals/Edicion-Hispanoamericana/Archivos/Primer-Trimestre-2018/La-batalla-por-el-multidominio-Impulsando-el-cambio-para-ganar-en-el-futuro/.

[32] PERKINS, D. G. «La Batalla multidominio. Impulsando el cambio para ganar en el futuro», Op. Cit.

Iraqi Republican Guard. This way, the air space was secure to execute missions with helicopters, being able to move on the third phase, in which the objective was to prepare the battlefield to diminish Iraqi artillery, armoured, mechanized and infantry units, as well as the bulk of its ballistic missiles. The fourth and last phase consisted in the land offensive, in which armoured, mechanized and infantry divisions had to take over strategic positions to guarantee the pass of allied Arab forces and, at the same time, prevent Iraqi troops from withdrawing to their territory[33].

The operation was carried out and finished between the 17th of January and the 2nd of March 1991, proving that the airland battle was the most suitable doctrine for modern warfare. Armoured units worked closely with the Air Force while operating continuously for eighty-nine hours, being able to cover long distances in little time. The 1st Armoured Division claimed the destruction of 327 tanks and 368 armoured carriers, among other kinds of materiel. It was clear that the cooperation of all arms was key to succeed in operations, though it also proved the growing difficulty of managing logistics and the gradual enlargement of the depth in theaters of operations.

Nonetheless, recent conflicts such as Nagorno-Karabakh, Ukraine or Gaza have call the traditional approach to warfare into question. In one hand, tanks have lost their ability to break through due to a constant threat of cheap and effective loitering munitions, among other aspects[34]. On the other hand, the technological progress and its impact on the battlefield has evolved into a transparency which causes that «essentially every existing element in the theater of operations can be detected and identified in little time»[35]. In this sense, Perkins explains that nowadays, contrary to airland battle, there are several adversaries that achieve their objectives under the threshold of the armed conflict. Therefore, the airland battle doctrinal frame is no longer suitable for meeting the needs of an army, having to evolve into what it is known as multidomain[36].

[33] QUILTER, C. J. *U.S. Marines in the Persian Gulf*, *1990-1991. With the I Marine Expeditionary Force in Desert Shield and Desert Storm*, Washington D.C., History and Museums Division Headquarters, 1993, p. 37.
[34] For going further into the matter of the role of tanks in the Ukraine War, refer to SAURÍN MARTÍNEZ, D. «Medios blindados en la ofensiva ucraniana de verano: nuevas tácticas, nuevos modelos y nuevas amenazas», Documento de Opinión IEEE 83/2023 https://www.defensa.gob.es/documents/2073105/2077230/Medios+blindados+en+la+ofensiva+ucraniana+de+verano+nuevas+tácticas%2C+nuevos+modelos+y+nuevas+amenazas.pdf/2954d654-6ddb-a70f-ef29-b9614436ee9a?t=1716987271851 (consulted on 18/07/2025).
[35] FRÍAS SÁNCHEZ, C. J. *Rusia, Ucrania y el campo de batalla «transparente»*. Documento de Opinión IEEE 18/2024. https://www.defensa.gob.es/ceseden/-/rusia-ucrania-y-el-campo-de-batalla-«transparente» (referred on 28/06/2025).
[36] PERKINS, D. G. «La Batalla multidominio. Impulsando el cambio para ganar en el futuro», Op. Cit., pp. 47-48.

In this new concept, space and cyberspace have become new combat scenarios, giving war a new and extended scope beyond the traditional domains of land, sea and air. Moreover, this doctrine includes, as part of the operations, those actions that are done before the start of the hostilities in a Clausewitizian sense of the term. The multidomain can be defined as the organization, practise and employment of capabilities and methods across different areas, environments and roles, over time and physical space, which counter the enemy´s ability to do the same, both in peacetime and in conflict, if that´s the case[37].

Along this new doctrinal approach, there are also new areas within the theater of operations. The rear is divided into three different areas: tactical, operational and strategic support areas, taking into account that the strategic one is the country itself or allies´s ones (5000 kilometres or more). As we get closer to the enemy, there is the operational support area (1500 kilometres) and the tactical support area (500 kilometres). In relation with what would be defined as «front», we can tell the close area and the deep maneuver area, aspect that, essentially, was inherited from the airland battle. To conclude with, there is the enemy operational zone and its strategic area (500 kilometres the former and from 1000 kilometres on the latter)[38].

This increased complexity is encouraged by the innovative use of technology, both new and existing, in conflicts. As it was said before, space and cyberspace become new competition areas. Moreover, the struggle for the electromagnetic spectrum, the information management and artificial intelligence technologies have caused the appearance of engagements both physically and virtually. In the multidomain war, not only is the physical part of the war considered, but also the virtual and intangible elements, and the latter is constantly happening in the phase before the armed conflict itself.

These days, we are facing a multipolar world, in which different powers (United States, Russia, China, India, among others) make use of all their resources to impose their will to the others. Frías Sánchez explains that «contestants will try to take advantage of anything to get rid of possible competitors. In addition, the great existing powers will try

[37] TRADOC Army Capabilities Integration Center, *Multi-Domain Battle: Evolution of Combined Arms for the 21st Century* 2025-2040, 2017, p. 1.
[38] TRADOC Army Capabilities Integration Center, *The U.S. Army in Multi-Domain Operations 2028*, 2018, p. 8.

to avoid the appearance of new competitors, which could end up in new conflicts»[39]. This new way of war appears in the form of government campaigns, information resources (social media, new narratives, cyber-attacks)[40]. For instance, Russia is willing to use nuclear weapons in case of suffering a hypothetical conventional attack, according to its new doctrine for the use of nuclear weapons[41]. This effective deterrence can be seen as part of a competitive multidomain scenario, in which Russia is fighting to defend its interests without stepping into a physical engagement with its direct rivals, mainly the United States.

However, not only is deterrence produced in the strategic area, but also in a tactical level. According to Army Futures Command´s concept (AFC), «the BCT´s combat readiness (Brigade Combat Team) and demonstrated lethality provide the credibility essential to deterring adversaries and assuring allies and partners»[42]. This deterrence and, given the case, adaptability to a hypothetical armed conflict, is based on the synergy of every domain across the theater of operations. It is paramount to bear in mind that this is an evolution from the mechanized warfare, optimizing «capabilities from across all domains, the EMS (electromagnetic spectrum), and the information environment to achieve the maximum effect from the available resources»[43].

In this tactical frame, the multidomain aims to «destroy or defeat enemies by forcing them to fight against multiple types of attacks from multiple directions». This way, allied units would achieve surprise and momentarily advantage in what is known as «decisive spaces». This concept, an evolution from the traditional breaking point (*Schwerpunkt*), can consist of whether a physical space or a timeframe, according to the nature of the operation[44].

[39] FRÍAS SÁNCHEZ, C. J. «El futuro de la disuasión nuclear: análisis de las estrategias de las grandes potencias nucleares», in *IEEE Cuaderno de Estrategia 229. Panorama nuclear global*, p. 43. Disponible en: https://publicaciones.defensa.gob.es/media/downloadable/files/links/p/a/panorama-nuclear-global.pdf (consultado 18/07/2025).
[40] AFC, *Army Futures Command Concept for Fires 2028*, Pamphlet AFC 71-20-6, 2021, p. 10.
[41] PÉREZ GIL, L. «Poderío nuclear de Rusia: nuevos planteamientos sobre capacidades y doctrina de empleo», in *IEEE Cuaderno de Estrategia 229. Panorama nuclear global*, p. 85. Available at: https://publicaciones.defensa.gob.es/media/downloadable/files/links/p/a/panorama-nuclear-global.pdf (consultado 18/07/2025).
[42] AFC, *Army Futures Command Concept for Brigade Combat Team Cross-Domain Maneuver 2028*, Pamphlet AFC 71-20-2, 2020, p. 10.
[43] TRADOC Army Capabilities Integration Center, *The U.S. Army in Multi-Domain Operations 2028*, Op. Cit., p. 20.
[44] AFC, *Army Futures Command Concept for Brigade Combat Team Cross-Domain Maneuver 2028*, Op. Cit., p. 11.

What´s more, it is aimed to disorganize the enemy, attack its cohesion and deny it its freedom of action: «the increased speed and rhythm across multiple domains and environments allow BCTs to concentrate combat power at a tempo the enemy is unable to match». On the other hand, just like the foundations of the deep battle, the employ of surprise and speed is highlighted, which lead to the destruction, weakening and disorientation of the enemy, «while also increasing Joint Force freedom of movement and action from the land domain». This importance of the decisive engagement reminds of the nineteenth-century doctrines and Clausewitzian principles. Nonetheless, unlike German or Soviet basis, the objective is «dislocation and disintegration rather than engaging in sequential, set-piece battles of annihilation»[45].

Considering that it is an evolution from the airland battle, many of these foundations can be found in works of previous military thinkers. For example, the British John F. C. Fuller stated that, in the future, «tank fleets will move forward, not against the body of the enemy´s army but against his brains; What then is the body going to do, for its brain is paralysed? »[46]. In this line of thought, Basil Liddell-Hart stressed that future military units would be agile and maneuverable, advancing «by rapid bounds into the enemy country to strike at its vitals, establishing behind them, as they progress, a chain of fortified bases, garrisoned by heavy artillery and land marines»[47]. Similarly, Isserson pointed out the relevance of the chain of engagements, asserting that a future operation «will be a continuous chain of merged combat efforts throughout the entire depths»[48]. To conclude with, Guderian stressed the importance of «breaking deeply through the enemy defence» and the «incursion followed by pursuit, overcoming enemy sectors in the front»[49].

In summary, the multidomain doctrine searches for the accommodation of new technologies and its several innovative uses into the airland battle, aiming to dispose of a new approach which answers to the real needs of present theaters of operations. Basically, the main objective is «to penetrate enemy Anti-Access/Area Denial (A2/AD) capabilities and attack into the depth of the enemy defence». To make it happen, it is paramount to have constant forces in decisive points able to receive reinforcements with

[45] AFC, *Army Futures Command Concept for Brigade Combat Team Cross-Domain Maneuver 2028*, Op. Cit., pp. 24-26.
[46] FULLER, J. F. C. *Tanks in the Great War 1914-1918*, Nueva York, E. P. Dutton and Company, 1920, p. 311.
[47] LIDDELL HART, B. H. *Paris or The Future of War*, Nueva York, E. P. Dutton and Company, 1925, p. 82.
[48] ISSERSON, G. S. *The Evolution of Operational Art*, Op. Cit., pp. 47-48.
[49] GUDERIAN, H. *Achtung Panzer! The Development of Tank Warfare*, Op. Cit., p. 222.

freedom of maneuver and capacity to assure the gains[50]. It has been proved that the basis of airland battle is still present in the multidomain. Nevertheless, this new doctrine is still being tested in a period of technological and military transition.

The Ukraine War: mutating doctrines in a transition context

Since the Russian failure in taking over Kiev during the first weeks of the invasion, the conflict got into a long stagnation for over two years. Only after the summer of 2024, the Russian forces were able to regain the initiative thanks to the progressive depletion of the Ukrainian armed forces and its lack of means to replace manpower and materiel. This stalemate was favoured using new weapon systems, such as drones, reconnaissance sensors and technology to improve accuracy, which prevent the mass concentration of units to achieve a breakthrough, paramount aspect in the airland doctrine. It is only needed to be checked the destruction of Russian convoys towards Kiev in March 2022, the failed Ukraine summer offensive in 2023 or the more recent limited operation in Kursk in 2024.

Under the pretext of defending the *oblast* (province) of Suny against a hypothetical Russian offensive, Ukrainian armed forces built up resources and units in bordering territories, like the 80th and the 82nd airborne brigades, equipped with a mix of ex-soviet and western materiel. On the 6th of August 2024, a force approximately composed of 11.000 troops began with an offensive against the *oblast* of Kursk, surprising a similar number of Russian soldiers in the zone. Multiple advances towards different directions were carried out to spread confusion, being the main axis the advance towards the bordering city of Sudzha.

During the first phases of the operation, Ukraine deployed small but agile and maneuverable forces which took advantage of the initial surprise, being able to break through the Russian front up to thirty-five kilometres[51]. The main tactic was based on the use of different echelons during the assault. Ukraine employed its most agile units (the 80th and the 82nd brigades) as vanguard elements and, afterwards, it used support units

[50] AFC, *Army Futures Command Concept for Brigade Combat Team Cross-Domain Maneuver 2028*, Op. Cit., p. 26.
[51] EVANS, A. «Ukraine´s Kursk Incursion: Six Month Assessment», *Institute for the Study of War*, 6th February. Available at: https://understandingwar.org/backgrounder/ukraine's-kursk-incursion-six-month-assessment, pp. 1-5 (referred on 18/07/2025)

to assure the acquired territory. Moreover, these rear echelons used the confusion generated on their favour to encircle the Russian units and neutralize small resistance pockets. These methods are not different from those described before in the historical section. However, Ukrainian armed forces used technological means in a innovative way.

First of all, the Ukrainians employed electronic warfare systems to prevent Russians from flying drones, while they were also interrupting their communications. After guaranteeing space superiority, they used loitering munitions to attack fortified positions, making it easier to advancing assault units. Even where there were not Ukrainian units physically, drones were deployed to control the access to those areas, denying the Russians their freedom of maneuver. These new tactics, techniques and procedures (TTP), never considered in another conflict, can be seen as part of the new multidomain war, in which one of the main premises is achieving superiority in an area by denying the enemy the access to it. The multidomain doctrine states that enemy Anti-Access/Area denial systems must be neutralized in order to create favourable conditions and freedom of action, and therefore being able to «keep areas, consolidate gains and fulfil the objectives of the mission»[52].

However, in light of these procedures, Russian armed forces adapted themselves quickly. Considering the success achieved by electromagnetic attacks, Russia reinforced the employ of electromagnetic resistant systems. Moreover, it started to use optic fiber drones massively, which are better against electromagnetic pulses, though with a shorter range. These devices operate differently and are less accurate and fragile, but they are unnoticeable to active and passive radar systems[53]. To solve these flaws, the Russian industry has going on with improvements on the designs of these drones[54].

Through the end of August 2024, the Ukraine offensive in Kursk started to stabilize, as Russian forces managed to bring more units into that area. Ukraine for its part made some mistakes though. The main supply route relied on the road from Sumy to Sudzha. This made the Ukrainian ability to supply its troops vulnerable, given that any interference on the rout could end up in the total interruption of the logistic chain. What´s more, the

[52] AFC, *Army Futures Command Concept for Fires 2028*, Op. Cit., pp. 27-28.
[53] ALTMAN, H. «Inside Ukraine´s Fiber-Optic Drone War», TWZ, 28th of May. Available at: https://www.twz.com/news-features/inside-ukraines-fiber-optic-drone-war (referred on 18/07/2025).
[54] The model known as «Hortensia» is worth mentioning, in active duty since December 2024. It features a universal weaponry platform and a reinforced cable to avoid undesirable breaks. For further details, the following link can be referred: https://www.youtube.com/watch?v=yS9Q8RQN1Io.

communication network Starlink proved to be useless on Russian soil, leaving Ukrainian units blind. The unavailability of proper communications and weak logistics were interrelated problems, in other words, the inefficient communication influenced directly on the management of logistics during the operations which, at the same time, were already poor. Moreover, the effectiveness of Russian medium-range and long-range weapons, such as the UMPK guided bombs or the massive use of missiles, must be taken into account[55].

This matter leads to reflect on the growing complexity of logistics in multidomain scenarios. Nowadays, the progressive increase of the depth of operations, and the appearance of new and different systems, have influenced directly on the ability of Russian and Ukrainian armies to keep their troops provisioned. Moreover, the transparency of the battlefield, derived from the ease to observe and do reconnaissance (geolocation, unmanned systems and so on), has caused an exponential growing of threats to logistic units. In this sense, the multidomain doctrine demands for these forces «mobility, protection, and agility to support widely dispersed forces with diverse support requirements»[56].

This way, the Kursk offensive started following innovative tactics, even using certain modern means suited to the multidomain concept. However, the agility and maneuverability which were at the beginning were not supplemented with a proper logistic chain able to sustain that effort. The result was that Ukrainian units, without a reliable logistic network and against an increasingly stronger Russian defence, were unable to keep going with the breakthrough. They got the initial operational surprise and were able to diversify their attack axis. However, while its approach was that of the multidomain, its logistics featured too many mobility flaws. This proves the current state of uncertainty in military doctrine in the conflict.

Russian forces took advantage of the unstable situation to begin with the launch of several counterattacks aimed to gradually diminish Ukrainians´ resistance. Russian intelligence was aware of the inefficient Ukrainian logistics and started to use unmaned

[55] PÉREZ GIL, Luis V. *Empleo de misiles rusos de largo alcance en la guerra de Ucrania.* Documento de Análisis IEEE 49/2025. https://www.defensa.gob.es/documents/2073105/2726226/empleo_de_misiles_rusos_2025_dieeea50.pdf/ (consultado 17/07/2025).

[56] TRADOC Army Capabilities Integration Center, *Multi-Domain Battle: Evolution of Combined Arms for the 21st Century*, Op. Cit., p. 60.

systems to cut off their fragile supply routes by mid-September. In this sense, Rusia managed to successfully employ Anti-Access/Area Denial in both tactical and operational levels, exploiting a weakness and adapting their means to do so (optic fiber drones and superiority of long-range fires)[57].

Despite this, Russia was not able to expel the Ukrainians in the first moments of the offensive. The Russian mechanized counterattacks did not get what they should have, prolonging the Ukrainian occupation[58]. Throughout October, November and December of 2024, Russia employed units of different sizes (the biggest one battalion-size) to diminish Ukrainian combat capability, sometimes making use of infantry assaults. The availability of loitering munitions, the constant surveillance and a lack of protection for armoured means were some aspects which influenced the partial failure of these counterattacks.

It should be considered that, in a multidomain scenario, mechanized units must count with both active protection elements (like the Israeli *Trophy* or the Russian *Arena*) and total integration in all the domains of the battlefield. The multidomain assumes that anti-armour capacities will grow exponentially in the future, presenting a challenge for the defence of units in a tactical level. Therefore, it emphasises the use of active and passive protection, masking systems and technology linked to cyber and electronic warfare functions. This way armoured and mechanized units will be able to achieve missions considered by the multidomain doctrine, such as defeating enemy Anti-Access/Area Denial systems or conducting area security in the tactical support area[59].

Russia counts with effective active protection systems, but its implementation at large scale is too expensive and is let, generally, to the most modern main battle tanks (as in the case of the T-90M). As a result, mechanized and armoured means found themselves helpless during the offensives, being unable to achieve tactical and operational advantage needed to advance through the Ukrainian depth. Russian armoured forces had managed to harm Ukrainian logistics, but, at the same time, they were unable to develop an agile operation which brought a swift end to the enemy presence in Kursk. In conclusion, both opposing armies developed multidomain tactics, though without achieving total effectiveness during their execution, hence leaving a complex transitional

[57] TERAJIMA, A. "The rise and fall of Ukraine´s Kursk gambit", Kyiv Independent. Available at: https://kyivindependent.com/the-rise-and-fall-of-ukraines-kursk-gambit/ (referred on 18/07/2025).
[58] EVANS, A. «Ukraine´s Kursk Incursion: Six Month Assessment», Op. Cit., p. 10.
[59] AFC, *Army Futures Command Concept for Brigade Combat Team Cross-Domain Maneuver 2028*, Op. Cit., pp. 6-9.

scenario which will favour that who was successful in totally embodying the new principles of the multidomain.

Conclusion

It has been proved that, although it is not a decisive factor, the technological innovation is a relevant aspect in developing new military doctrines. In a similar way as during the inter-war period, the appearance and novel employ of weapons and other systems have led to the need of proposing a new doctrinal scope.

The Ukraine war is the scenario in which the progressive transition to a multidomain war can be observed. This has not showed itself fully, on account of the use of obsolete technology of previous doctrines, which is unable to adapt itself to the new requirements of the multidomain. Russia and Ukraine have already taken measures to change their armies with proper means and foundations, but the economic and industrial reality poses a challenge to achieve it.

War economy requires diverting great amounts of resources to the sustainment of the front lines. The men losses, maintenance of vehicles and replacements of destroyed means, among other problems, are a priority in an increasingly demanding conflict, which benefits the one who owns the strongest industrial and economic capacity, which is Russia.

Therefore, it can be stated that the opposing doctrines are transitioning to new theoretical approaches. Battle experience is essential to verify or disprove different doctrinal scopes. In this sense, both armies are putting all their effort on creating a favourable frame for this change.

The multidomain doctrine is the logical and natural evolution from the airland battle and the mechanized warfare. Using this basis, this new approach considers the technological innovation and adapt it to new principles, which will transform future battlefields. Armies will have to study these principles, such as cyber security, electronic warfare or the progressive increase of speed in the theaters of operations, to show an effective deterrence and, when it comes, to start a conflict in favourable terms. In this context, the Ukraine war can mean the turning point for the transition to the multidomain scenario.

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