



# THE BEST ARMY UKRAINE HAS EVER HAD

## CHANGES IN UKRAINE'S ARMED FORCES SINCE THE RUSSIAN AGGRESSION

Andrzej Wilk

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**OSW** |

CENTRE FOR EASTERN STUDIES

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# Contents

INTRODUCTION /5

THESES /6

**I. THE UKRAINIAN ARMY IN THE FACE OF RUSSIAN AGGRESSION /8**

**II. DEFENCE EXPENDITURE /12**

**III. MANPOWER /15**

**IV. THE ORGANISATION OF THE UKRAINIAN ARMED FORCES /19**

**V. TRAINING /22**

**VI. EQUIPMENT /25**

SUMMARY /31

**Appendix 1.** Notes on sources /33

**Appendix 2.** Structure and home bases of the Land Forces, Airmobile Troops and Marine Corps (general military units and support units) /35

**Appendix 3.** The equipment of the Ukrainian armed forces (the basic categories of armaments according to the Treaty on Conventional Armed Forces in Europe), as of the beginning of 2017 /38

MAPS /40

## INTRODUCTION

In the spring and summer of 2014, for the first time in its history, the Ukrainian army faced the necessity of military involvement to defend its state. After initially failing to engage in action with the enemy – in the form of irregular armed formations, sent from the territory of Russia, which rapidly took over Crimea – and faced with the threat of Ukraine losing the entire eastern and southern part of the country and real, direct aggression from Russia, it launched military action against the so-called separatists.

Initially, the Ukrainian armed forces' actions in the Donbas were carried out on a small scale and were irregular in nature, based on reacting to the enemy's activity. Along with the systematic increase in the separatists' potential (thanks to Russia), as well as the direct involvement of the Russian Federation's armed forces at a critical period in August 2014, the Ukrainian army's operations took on a regular character, and the entire military potential of Ukraine was involved in defending the territorial integrity of the state. The military activity in the Donbas carried out at that time, and to varying degrees of intensity in the following months, highlighted the Ukrainian army's weaknesses, as well as its total inability to implement its constitutional duties. This forced the government in Kyiv to take real action to clean up the country's armed forces.

## THESES

- The Ukrainian authorities' decision to counter the Russian aggression in Eastern Ukraine by military force entailed the first significant increase in defence spending after two decades of stagnation and decline. However, increasing the Defence Ministry's budget, from 1% of GDP in 2013 to 2.5% of GDP in 2015 and 2016, did not provide an impulse for any major investment in the technical modernisation and development of the Ukrainian armed forces; it merely covered the necessary costs associated with the conduct of military operations in the Donbas.
- Within a period of two years, in the relatively difficult situation which the Ukrainian state found itself (economic collapse, entanglement in long-lasting positional warfare in the east of Ukraine), significant changes were made to the Ukrainian army to improve its condition and to make it better suited to current challenges. The reform of the system for recruitment to Ukraine's armed forces, and the laying of the foundations for a relatively well-functioning system to mobilise reserve troops, should be considered as both the greatest challenge to and the greatest achievement of the country in that time.
- Reaching a ceiling of 204,000 full-time soldiers in active service should be considered as the maximum mobilisation effort which Ukraine can manage at the present time. This number guarantees the maintenance of the military *status quo* at this stage, as well as – if Russia remains quiescent – the armed re-conquest of that part of the Donbas which is under the control of the separatists; however, it will not be enough for effective self-defence if Russia launches a campaign of full-scale aggression against Ukraine.
- The threat of full-scale armed aggression by Russia forced Ukraine to make the first structural and organisational changes to its army appropriate for operational needs since 1992, and to intensify the training process and extend it to the vast majority of units. In a situation of continued insufficient investment in the army (despite its significant growth compared with the period before the conflict), the supply of armament and military equipment to the Ukrainian armed forces remains its Achilles heel.
- In the existing financial and technical conditions, considering the relatively modest plans which have been announced for the future, there is no chance of the technical modernisation of the Ukrainian army being initiated or implemented in the foreseeable future (before the year 2020).

- The war in the Donbas has emphasised how far the Ukrainian arms industry still depends on cooperation with Russia. Despite the state's clear weaknesses in the process of reforming the army, Ukraine has managed to create the potential to maintain the *status quo* in the Donbas, and also to undertake and organise short-term defensive actions in response to any full-scale Russian aggression, in anticipation of possible support from outside.

## I. THE UKRAINIAN ARMY IN THE FACE OF RUSSIAN AGGRESSION

In the spring of 2014, just after the bloodless occupation of Crimea by the Russian army, and at the very start of the armed conflict in the Donbas, the Ukrainian army was nearly a quarter-century old. This period can be considered long enough for a sovereign state to construct its armed forces from the ground up. However, the war in the Donbas has shown that the effective acquisition by Ukraine of an almost complete army after the dissolution of the Soviet Union not only failed to streamline the process of creating the Ukrainian armed forces, but was even a root cause of their failures, at least in the first months of the conflict.

Before the Ukrainian army was formed, on 24 August 1991 the Ukrainian parliament, in its declaration of Ukraine's independence, decided to assume jurisdiction of those units of the Armed Forces of the Soviet Union remaining on its territory. In fact, however, they remained subordinate to the command in Moscow at least until the dissolution of the Soviet Union, and for the first weeks of the formal existence of the Ukrainian armed forces (between 6 December 1991, when the parliament in Kyiv adopted a law on the Ukrainian armed forces, and 26 December 1991, when the Council of the Republics of the Supreme Soviet of the USSR adopted the declaration on the dissolution of the Soviet Union), they were in fact subject to a form of dual command. The process of formally liquidating the ties between the newly created Ukrainian army and its former leadership in Moscow lasted more than five years. Its successive stages proceeded as follows:

- the Tashkent agreement (15 May 1992), allocating the military limits granted to the Soviet Union under the treaty on conventional armed forces in Europe among the former Soviet Republics (CFE-1);
- the Budapest memorandum (5 December 1994), whereby Russia transferred to Ukraine its nuclear weapons and their strategic means of delivery, in exchange for guarantees of the security of Russia, the United States and the United Kingdom (the process of de-nuclearising the Ukrainian armed forces was completed in 2000);
- the agreement on the division of the Black Sea Fleet of the former Soviet Union between Ukraine and Russia (28 May 1997).

Despite the formal separation of the Ukrainian armed forces as the military formation of a sovereign state, they remained dependent on cooperation with Russia in matters of material-technical security (including the supply of

components and spare parts for most of their weapons and military equipment) and the training of highly specialised types of troops (the exercises in Russia of the air defence troops were led by the returning 'orange' defence minister Anatoliy Hrytsenko, who had no support in the West). The informal ties between the personnel of the Ukrainian armed forces and the Russian army were *de facto* never severed; one consequence of this was the second wave of Ukrainian commanders going over to the Russian side after the annexation of Crimea (the first wave had already taken place by the mid-1990s, in connection with the exchange of senior personnel between the former Soviet republics on the basis of nationality).

Since their establishment, the Ukrainian armed forces have been (and effectively still are) in a state of permanent reform. Until the start of the war in the Donbas, however, the only consistent and undisturbed reform process in the Ukrainian army involved cuts (of structures, staff and equipment). The elements essential to the reform of Ukraine's armed forces, demanding financial investments and changes in thinking, such as changing the command structure, the recruitment system (i.e. the creation of a professional army) and technical modernisation, encountered problems from the beginning, and – apart from the formal abolition of conscription in 2013 – have been implemented in piecemeal fashion, or (as in the case of technical modernisation) have not started at all. Since the beginning of the 21<sup>st</sup> century, the main impulse to reform has been Ukraine's orientation towards integrating with Western structures (including NATO), and the Ukrainian army has thus become one of the main forums of the country's cooperation with the West. However, the genuine changes related to membership in the North Atlantic Alliance have been limited (mainly due to the underfunding of defence), and within the Ukrainian armed forces they have only been applied to selected individual units. Most of these changes took place in the twilight of President Leonid Kuchma's rule (in the period leading up to the so-called 'orange revolution'), and their crowning glory was the participation of a Ukrainian brigade in the American operation in Iraq (as part of the Multinational Central-South Division commanded by Poland). During the presidency of Viktor Yushchenko, despite the opening of a Westernised direction in the changes in Ukraine, the process of adapting to NATO standards underwent a gradual slowdown for financial reasons, and at the beginning of the 2010s, during the presidency of Viktor Yanukovich, it was put on hold. In recent years, in the face of the Russian aggression, defence expenditure has oscillated around a figure of 1% of GDP, which not only made it impossible to carry out any reforms, but was insufficient even for the current activities of the Ukrainian armed forces. This has resulted in the systematic reduction of

training, a deterioration in the condition of armaments and military equipment, as well as a drop in interest in a professional military career. It has become common among the professional staff of the Ukrainian army to make up their salaries, which are low even by local standards, by illegally selling off army property, as well as by embezzling funds granted for the maintenance of the units. Tolerating this state of affairs not only did not help in shaping the new mentality of the commanding staff of a sovereign state, but also maintained the negative habits acquired during the twilight of the Soviet Union.

In the years immediately preceding the Russian aggression, starting from the abandonment of integration with NATO and the restoration of neutral status to Ukraine (in July 2010), the Ukrainian armed forces were *de facto* in a state of collapse. It remains an open question how much this was dictated by the factors mentioned above, which had pushed the Ukrainian army to the margins of political life and public interest, and how much it was the result of conscious decisions by the Ukrainian authorities (inspired by Russia), under the sole leadership of the Ministry of Defence. Russian infiltration of the Ukrainian armed forces' senior staff was conditioned by historical and social (ethnic Russians serving in the Ukrainian army, ties of family and friendship between the personnel of both armies) as well as economic factors (this became particularly visible after salaries in the Russian armed forces were raised in 2012; the disparities in the pay of army personnel serving in the Ukrainian armed forces left them in the position of pariahs with regard to their Russian counterparts). Nevertheless, the staffing decisions taken at that time indicate that the authorities in Kyiv were at the very least indifferent to improving the situation in the area of defence. The most vivid examples of this involve the appointment of the Russian businessman Pavel Lebedev as defence minister (he ran the ministry from 24 December 2012 to 28 January 2014, although he remained as acting minister until 27 February that year); and, after the Russian military operation in Crimea, of Admiral Denis Berezovsky as commander of the Ukrainian Navy, who defected to Russia on the second day after his appointment (he commanded the Ukrainian fleet from 1–2 March 2014, from 2–18 March he was commander-in-chief of the fleet of the so-called Republic of Crimea, and from 18 March he was Deputy Commander of the Russian Black Sea Fleet). This latter case demonstrates not only the extent to which Russia had infiltrated the Ukrainian armed forces' command, but also the failure of the Ukrainian political elite to discern any leadership potential within the personnel of the Ukrainian army (which is the aftermath of an earlier lack of political interest in defence issues), as well as the limited number of officers who would be able to command the army in the event of armed aggression against Ukraine. Even the nominal successes for the

reform of the Ukrainian armed forces represented by the abolition of conscription (in 2013), and the transition (planned from 2014) to a professional army introduced under President Viktor Yanukovich, and guided by the defence ministry under Pavel Lebedev, were a factor in effectively weakening Ukraine's defensive potential; the abolition of conscription was not accompanied by the creation of a system of recruitment to professional service which met the new needs of the Ukrainian armed forces. As a result, when Russian troops invaded Crimea, the Ukrainian army was not only poorly trained and equipped; it also had insufficient motivation to defend a state whose government had treated it not as a guarantor of the independence and territorial integrity of Ukraine, but as a financial burden.

## II. DEFENCE EXPENDITURE

The Ukrainian government's decision to stop the Russian aggression towards Eastern Ukraine with armed force brought with it the first significant increase in defence spending the country had seen after two decades of stagnation and decline. However, raising the defence ministry's budget from 1% of GDP in 2013 to 2.5% of GDP in 2015 and 2016 did not make major new investments in modernisation and development of the Ukrainian armed forces possible; it only covered the necessary costs associated with the conduct of military operations in the Donbas. As in previous years, the vast majority of the funds (approximately 80%) were absorbed by current expenditures (because of the mobilisation of reserves, which had numbered close to 200,000 people at that point, as well as greater consumption of materials, armaments and military equipment). This state of affairs was maintained in conditions of relative calm and a stable situation at the front, whereupon the collapse of the Ukrainian economy and the progressive decline in the value of the hryvnia against the dollar meant that military spending remained stable in 2016, at the level of US\$2.3 billion; and if the current budget is maintained, it will remain at this level in 2017 as well. Taking the high level of mobilisation of the Ukrainian army into account, this figure should be assessed as the critical minimum.

This minimum level of Ukrainian budgetary expenditure for military purposes, in relation to the assumptions and tasks carried out, was achieved thanks to the efforts which the whole of Ukrainian society made. The main methods of fundraising include the imposition of additional taxes and voluntary deductions directly related to funding the so-called anti-terrorist operation in the Donbas (mainly within the framework of the so-called Petro Poroshenko Fund, from which 350 million hryvnia was sent to the Ukrainian armed forces in the years 2014-16), as well as state guarantees of loans for companies meeting defence orders. Despite this, the authorities in Kyiv failed to meet the defence spending level of at least 3% of GDP which they set in 2015. Realistically the figure oscillates around 2.5% of GDP, and the public declarations that this figure has been achieved or even exceeded (according to the Ukrainian government, 3.1% of GDP has been set aside for defence in 2017<sup>1</sup>) are not

<sup>1</sup> In the information given, the value of 5% of GDP was cited most frequently, which includes the total declared expenditure on internal security and defence. In some publications the value of 5% to was incorrectly stated as the expenditure on defence alone.

confirmed in the financial data published by the Ukrainian defence ministry<sup>2</sup>. This situation is unlikely to change in the foreseeable future. A renewed jump in Ukraine's defence expenditure can only be expected if the country becomes involved in conflict on a scale comparable to or greater than that observed in the summer of 2014.

The budget of the Defence Ministry remains the main source of security for the operation of the Ukrainian armed forces, albeit not the only one. Starting in 2014, they have received assistance (material, hardware and training) from Western countries totalling \$3 billion. The most active donors to the Ukrainian army include the United States (US military aid amounted to about US\$600 million in the years 2014-16, with another US\$350 million scheduled for 2017), Canada and the United Kingdom, although the most generous donor has so far proved to be Japan (which in total has given equipment and supplies to the Ukrainian armed forces valued at US\$1.85 billion). In the first period of the conflict, expenses for military purposes were also paid for with private funds, ranging from the soldiers sent to the Donbas and their families, to Ukraine's oligarchs (led by Ihor Kolomoyskiy). However, at present it is difficult, if not impossible, to quantify the scale of expenditure from private sources.

**Table 1.** The budgets of the Ukrainian Defence Ministry in 2013-2017

	2013 (performance)	2014 (plan)	2014 (performance)	2015 (plan)	2015 (performance)	2016 (plan)	2017 (plan)
Expenditure in billions of hryvnia, including:	15.2 *	14.6	27.1	46.7	49.3	55.6	64.4
-maintenance	12.5	12.0	21.8	30.6	36.9	40.9	49.8
-training	1.2	1.1	1.0	2.1	2.1	3.2	2.9
-investments	1.5	1.5	4.3	14.0	10.3	11.5 **	11.7

<sup>2</sup> The data given comes from the financial information of the Ukrainian Defence Ministry (published in the so-called 'White Papers', among others), and in some cases the calculations of GDP percentage based on them differ from those based on later information from the Finance Ministry concerning the implementation of the budget. The principal reason for these divergences is the differences in the exchange rate of the hryvnia to the US dollar (at different time periods), which increased significantly, especially in the first several months after the Russian aggression began (2014-15).

	2013 (performance)	2014 (plan)	2014 (performance)	2015 (plan)	2015 (performance)	2016 (plan)	2017 (plan)
Expenditure in US\$ billion	1.9	1.82	2.35	2.95	2.42	2.32	2.38
Percentage of GDP	1.11 ***	1.0	1.78 ***	2.53	2.67 ***	2.46	2.49

\* planned: 15.3 billion hryvnia

\*\* according to preliminary data, 8.1 billion hryvnia have actually been spent

\*\*\* according to calculations based on data from the Ministry of Finance of Ukraine (<http://index.minfin.com.ua/index/gdp/>) the amount spent represented 1.04% of GDP (US\$1.9 billion) in 2013, 1.73% of GDP (US\$2.28 billion) in 2014, and 2.49% of GDP respectively (US\$2.25 billion) in 2015

### III. MANPOWER

The Ukrainian armed forces entered the war as a nominally professional structure, based on a contract system (conscription into compulsory military service, which had been reduced from year to year, was finally abolished in 2013), although as early as the first weeks of combat it ran up against a lack of senior staff. A partial mobilisation allowed for a relatively rapid increase in troops on the ground during the hottest period of fighting in the Donbas, although under conditions of prolonged conflict this did not prove to be a reliable way of maintaining the necessary number of soldiers. However, it did contribute to exposing the deficiencies of the Ukrainian mobilisation system, and forced changes to that system. Whereas during the first waves of partial mobilisation in the spring of 2014, the number of volunteers completely covered the demand (the problem then was poor training or its total absence), the prolongation of the conflict and the public's increasing awareness of its cost in deaths and injuries (as well as information about the terrible leadership and the poor conditions of service) led to the number of volunteers declining steadily, and it became common to avoid military service (contributing to corruption in the structures responsible for carrying out the mobilisation). The basis of all the waves of partial mobilisation was an even distribution of effort throughout the country's regions, although even during the fourth wave it turned out that the main source of troops was central Ukraine (the Dnieper region), and that recruitment from the other regions – whether the Russian-speaking South and East, or western Ukraine, which saw itself as the cradle of Ukrainian patriotism – was decreasing systematically<sup>3</sup>. As a result, the last two waves of partial mobilisation (the fifth and sixth in 2015) suffered a spectacular failure. The last group mobilised (in the sixth wave) completed their service in the autumn of 2016.

<sup>3</sup> Among the leaders of the fourth and fifth wave of partial mobilisation were the Khmelnytsky, Dnipropetrovsk, Vinnytsia, Kirovohrad and Zaporizhia regions, as well as the city of Kyiv, whose mobilisation plan was fulfilled 80-100% (the record was Vinnytsia oblast, which achieved 100% mobilisation). At the opposite extreme are the Kharkiv, Chernivtsi, Donetsk, Ivano-Frankivsk, Lugansk, Sumy, Ternopil and Transcarpathian regions, where the results of the mobilisation varied from 25 to 60%, and there were cases of the municipal authorities refusing to give notice of the mobilisation and issue summons. Small changes on the mobilisation map of Ukraine occurred during the sixth wave, although it should be assumed that these were dictated by the general breakdown of the partial mobilisation process. The other leaders were the Khmelnytsky, Vinnytsia and Dnipropetrovsk districts, which were joined by the Volyn and Zhytomyr districts (the mobilisation plans there reached 80-100%). The mobilisation plan can be said to have totally failed in the Ivano-Frankivsk (25% of the plan) and Transcarpathian districts (27% of the plan). Figures of below 40% were also reported in the Odessa and Sumy districts.

The core of recruitment to the Ukrainian army is the service contract. This was aided by the significant (in Ukrainian terms) increase in salaries for contract soldiers (as of 2016), which in the situation of Ukraine's economic collapses makes the armed forces one of the most attractive employers (especially for people from the provinces). In 2016, 69,000 people were accepted into contract service (including 7500 to officers' posts), as were another 7000 by the middle of March 2017. However, it is worth noting that in 2016, only 12,000 of these soldiers had had any experience; these troops had served during the waves of partial mobilisation. In total, from the beginning of the conflict to November 2016, recruitment into contract service amounted to 90,000 people, and the total number of active soldiers in the contract system reached 159,000 (including 48,000 officers and 111,000 NCOs and privates), which is close to 80% of the full-time positions in the Ukrainian army. If the observed trends are maintained, recruitment into service contracts will help raise the level of professionalism of the Ukrainian army's personnel. However, it should be assumed that in the next few years, the number of new volunteers will be lower than in the peak year of 2016 (interest in contract service began to wane in the second half of 2016), and will become increasingly dependent on the overall situation in the labour market.

Discussions about recruitment to the Ukrainian army cannot yet be considered closed. However, it should be assumed that giving up the goal of total professionalisation and maintaining a mixed system of recruitment, which the present leadership of the Defence Ministry and the General Staff have advocated, would – in a situation of threatened aggression against the entire territory of Ukraine – offer the country a better chance to make preparations and undertake defensive action. However, the relative success of the recruitment to contract service in 2016 has contributed to the return to plans for the full professionalisation of the Ukrainian army (this is planned to happen by 2020, when 250,000 contract soldiers have been recruited); the continuation of the state of war in the Donbas and the military threat from Russia is likely to stop the Ukrainian authorities from abolishing conscription (in the current conditions, the above-mentioned plan for total professionalisation should at most be considered as a declaration of intent). In the foreseeable future, conscription (which was formally restored in spring 2014, and *de facto* in 2015), in its presently reduced form, will remain the primary means of preparing the reserves for mobilisation in the event of a conflict on a larger scale. 16-18,000 young men are called up annually for basic military service in the Ukrainian armed forces (more than 60% of the total number of conscripts; the rest go to the National Guard and the Interior Ministry's Border Forces). In November 2016, the total number of conscripts in the

Ukrainian army was 19,200. The spring call-up in 2017 is scheduled to include 9100 persons (14,100 together with the other power structures).

The Russian aggression has not only forced the Ukrainian armed forces to return to a mixed conscription-contract system for its recruitment, but also to double their numbers. Achieving the ceiling of 204,000 soldiers in full-time active service should be considered as the maximum effort for mobilisation which Ukraine can manage at the present time (as of the beginning of February 2017, 37,000 soldiers have served in the anti-terrorist operation zone in the Donbas). This number guarantees that the armed *status quo* can be maintained at this level and, if Russia loses interest, the armed re-conquest of that part of the Donbas which is under the control of the separatists, although this figure would be insufficient to mount an effective self-defence if Russia launched full-scale aggression against Ukraine. The Ukrainian armed forces have an operational reserve of 130,000 men, relatively well trained and with real combat experience, who since 2016 have been moulded out of veterans of the Donbas (as well as from formations subordinate to the Interior Ministry). It must be stressed, however, that those counted in the reserve represent only half of the veterans of the anti-terrorist operation (by October 2016, 280,000 Ukrainians had served in the Donbas in all formations subordinate to the government in Kyiv, with 266,000 reservists gaining combat status; at the beginning of February 2017, 193,400 reservists were in the armed forces). Thanks to that, at least in terms of the human factor, it should be possible in a relatively short period of time to increase the Ukrainian army's degree of combat readiness, as well as to fight a relatively close battle with a comparable opponent, something the Ukrainian armed forces were not capable of doing at the beginning of 2014.

The Ukrainian army has still not overcome its problems related to the collapse of discipline and morale, which were especially apparent during the Russian annexation of Crimea and in the first period of the conflict in the Donbas. Despite significant progress in creating appropriate conditions of service, the nature of the conflict in eastern Ukraine, and the growing reluctance to participate in it, mean that the situation has little hope of improving in the foreseeable future. As of December 2016, 2,636 soldiers of the Ukrainian armed forces had been killed in the Donbas conflict (and 8,897 wounded); combat losses amounted to 2148 killed (other formations, not subordinate to the Ukrainian Defence Ministry, had suffered a total of 428 soldiers killed and 1856 wounded). In the first quarter of 2017, a further 69 soldiers of the Ukrainian army were killed and 420 wounded. Most of the combat losses are attributable to the hottest period of the conflict (summer 2014 to winter 2015), and the extension of trench warfare

in conditions conducive to the collapse of discipline and morale (even if only because of the constant criminal ‘trading’ over the front line and the observed participation of military personnel from both sides in this) has resulted in a rise in the number of deaths in non-combat conditions. In 2016, this figure exceeded the number of the Ukrainian side’s combat losses for the first time; 211 soldiers of the Ukrainian armed forces were killed in battle, while non-military losses amounted to 256 soldiers (mostly in various kinds of accidents, although as many as 63 committed suicide; there is no information on the number of murders and deaths which have occurred as part of the organisation and conduct of criminal activities, including smuggling across the demarcation line).

#### IV. THE ORGANISATION OF THE UKRAINIAN ARMED FORCES

From its creation in 1992 until the start of the war in the Donbas, all the organisational and structural changes in the Ukrainian armed forces were based mainly on reducing the number of existing commands at the operational-strategic level (and also on lowering their ranks), as well as cutting the number of units. Despite the changes announced by Kyiv with regard to the perception of risks, and its focus on integration with NATO (which was initiated as early as Kuchma's time in office), the locations of the most important commands and units have remained almost unchanged, based on the three former military districts of the Soviet army. Only in the situation of a real threat of Russian armed intervention did the government in Kyiv decide to make changes going above and beyond the existing reductions; the centre of gravity of the Ukrainian army's command and control system was moved in an easterly direction. Some existing units were also relocated to districts bordering the annexed Crimean peninsula and the ATO zone in the Donbas, and new units were formed in Central and Eastern Ukraine.

For the first time in Ukraine's recent history, the Russian aggression against it has forced the government in Kyiv to create an operational-strategic headquarters to take responsibility for all the potential war theatres. It is noteworthy that no Ukrainian command had previously taken *de facto* responsibility for defending the eastern and north-eastern areas (bordering on Russia). In the period 2006-2013, the area of the former Kyiv military district of the Soviet army did not even have formal command status, and only the 'North' territorial directorate (as distinct from the 'West' and 'South' commands then existing) had such a status. The 2013 reform of the command structure partially normalised the situation, leaving just two operational headquarters, North and South, in the structure of the Ukrainian armed forces. However, the North command was located in Rivne, and was traditionally oriented westwards.

The new military-administrative division of Ukraine was introduced in January 2015, and two operational headquarters were created on the Russian front: 'North' in Chernihiv and 'East' at Dnipro City (the others are 'West' in Rivne and 'South' in Odessa). Initially, however, the change only applied to the structures of the land forces and airmobile troops. The air force was organised as it had been before the war in the Donbas until January 2016, when three air commands (military air zones) were created for them: 'West', 'South' and 'Centre', the latter of which was responsible for the protection of the entire air space facing Russia.

Only in January 2017 was the 'East' command separated from the 'Centre', which helped unify the areas responsible for the basic types of the Ukrainian armed forces on individual operational-strategic fronts, and thus formed a basis for the formation of combined headquarters which could be linked up in the event of a full-scale regular armed conflict.

The most visible change in the organisation of the Ukrainian armed forces which was caused by the conflict in the Donbas is the increase in the number of units. The changes associated with this predominantly apply to the land forces, as well as to the Airmobile Troops brought in to complement them, and have virtually bypassed the other classes of Ukraine's armed forces. This should be linked to the nature of the conflict in the Donbas (and hence the army's operational needs); but also with the Ukrainian state's limited options in terms of the formation, supply and preparation of personnel for the new formations of the air force (only one additional regiment of air defence has been created) and the navy. The latter was the only formation of the Ukrainian armed forces to have been reduced due to the loss to Russia of a substantial part of its potential and trained personnel after the annexation of Crimea (the command and main naval base have been moved from Sevastopol to Odessa), and its operational importance, particularly in light of the conflict in the Donbas, has become marginal. In total, since the start of the conflict, 17 new general military and combat support brigades have been or are being created (the most created at one time was 11, in 2015), and the total number of developed tactical compounds in the Ukrainian armed forces has risen from 21 (at the start of 2014) to 37 (at the start of 2017), which together with the newly created units makes a total of 46 brigades. In addition, at least 5 separate battalions and divisions have been created; in part these form the basis for the brigades created later. In this regard, investments have also been made in the structures of security activities, with the creation of one new brigade (engineers), 6 regiments and 11 independent battalions. The formation of so many new units, in conditions where there are problems with equipment, training and personnel exchanges in already existing units, has met with criticism from advocates of the professionalisation of the Ukrainian armed forces. The decision to create new command units was taken in a situation of an imminent threat of full-scale military aggression by Russia, and was thus concerned with the need to secure the defence of at least two operational-strategic fronts, and as such must be regarded as entirely understandable.

**Table 2.** The number of developed tactical groups in the Ukrainian armed forces in the years 2014-2017 (existing and newly-created general military and support formations; state at the beginning of the year)

	Armoured brigades	Mechanised brigades	Motorised brigades	Mountain infantry brigades	Airmobile brigades	Marine infantry brigades	Army aviation brigades	Artillery brigade
2014	2	6	-	1	4	-	3	4
2015	3	9	2	2	5	1*	3	6
2016	4	12	4	2	6	1	4	7
2017	5	14	4	3	8	1	4	7

\* Created on the basis of the subunits of the withdrawn from Crimea, including the former coastal defence brigade.

The Special Operations Forces, a new element in the structure of the Ukrainian armed forces, which was formed in response to the current nature of the conflict in the Donbas (with a significant role played by irregular actions), was immediately raised to the rank of an independent branch of the armed forces (in accordance with similar trends observed in the armies of NATO). They were formed on 5 January 2016, but their actual organisation only began at the end of 2016. Unlike the trends observed in NATO armies, Ukraine's Special Operations Forces have received an extremely strong component responsible for psychological operations, which should also be associated with the specific nature of the conflict in the Donbas. It was created on the basis of units which have been redeployed from other classes of armed forces, and their core is made up of 2 *spetsnaz* regiments, 2 special operations centres (including one from the navy) and 4 information and operations centres. As of now the command-personnel structures have been created, and the units are being supplied (as of December 2016); the recruitment and training of personnel is also underway (this is being carried out according to NATO standards, within the framework of courses led by instructor from NATO countries). We should assume that the first Special Operations Forces will be operationally ready in the course of 2017.

## V. TRAINING

One of the weakest elements of the Ukrainian army's functioning before the outbreak of the conflict in the Donbas was the training of troops. The small number of exercises carried out were most frequently organised as parts of the Ukrainian army's cooperation with NATO, and these multilateral projects were of a relatively low tactical level. Senior exercises were limited to the command and senior staff levels, and the vast majority of the Ukrainian army's soldiers did not participate in any training exercises at all. The deficiencies in training (for soldiers, officers and NCOs) should be considered as one of the basic reasons for the defeats and losses which the Ukrainian army suffered in the first months of the conflict. The latter in particular forced the Ukrainian command to place a greater emphasis on training. Considering that it still remains on the margins of the Ukrainian armed forces' financing (the significant decline in the value of the hryvnia means that expenditure on training in US dollars has fallen even in comparison to the period before the outbreak of the Donbas conflict), we should assume that the projects being implemented – whose numbers have actually increased (in large part because of the increase in the size of the Ukrainian army) – will mainly come down to soldiers' physical training and the maximum use of post-Soviet stocks of ammunition. This should be regarded as sufficient in preparing the army for combat in the Donbas (the actions carried out there over the past two years have not gone beyond the subunit level); the problems arise when preparing for possible full-scale, regular armed conflict. Admittedly the leadership of the Ukrainian Defence Ministry has announced a significant increase in the number of high-level (brigade) exercises, of the kind which had not been held at all until 2014. However, it should be assumed that in the operational dimension, these will lead to projects for command and senior staff, and their exercise aspect will ultimately consist of no more than a series of loosely related exercises for the subunits. We should consider the main task of these exercises to be the synchronisation of the soldiers remaining in active service with the reservists called up for training (especially after the creation of the operational reserve). In 2016, 40,000 reservists were involved in such projects; in 2017 up to 80,000 are scheduled to be trained. In 2016, the Ukrainian army also resumed the organisation of operational-strategic exercises (four were carried out in total, including the largest and most publicised *Rubezh* [Border] 2016), but in terms of military training, these consisted of a range of lower-ranking projects (at brigade and battalion levels, among others).

**Table 3.** Number of brigade- and battalion-level exercises in the Ukrainian armed forces in the years 2014-17

	2014	2015	2016	2017
Brigade exercises	0	9	17	25
Battalion exercises	17	69	93	No data

The situation in the air force has significantly improved in terms of numbers. However, the main reason for the substantial increase in the average number of hours flown by Ukrainian pilots is the supply and security operations in the Donbas, which favours the crews of transport aircraft and helicopters (NB. the data provided by Ukraine does not refer to individual airmen, but to whole crews; combat flights over the Donbas were *de facto* suspended after the losses incurred by Ukrainian air power in the spring and summer of 2014). It is noteworthy that while the number of flying hours has risen (up to 98 hours per year per crew in the peak year of 2015; until 2014 the average had been 25 hours), the number of flights in the field of combat training with weapons has fallen dramatically (effectively down to zero in the case of training in attacking air targets with rockets; only every third air combat exercise ends in a simulation of firing rockets), and only training in shooting at ground targets remains at a relatively stable level (about 400 per year; however these exercises do not include bombing, which is only occasionally practiced). The only fully valid air defence exercises are carried out on the ground by rocket air defence subunits, albeit on a small scale (a few per year, in order to check the condition of the missiles). In a situation of regular conflict and clashes with the air forces of a potential opponent (in this case Russia), the capacity of the Ukrainian air defence system must be regarded as inadequate at even a minimum level (this is caused not only by a lack of resources for training, but also by technical problems within the air fleet).

In this situation, the rise in support from NATO countries is one of the most important elements of training for the Ukrainian armed forces. It is noteworthy that whereas the Ukrainian Defence Ministry has not included the costs associated with this in the total expenditure on training (it is not counted as budgetary spending), it does include them in the plans and results of the training. Western assistance most often consists of basic combat training for the detachments, at least some of which should be included in the declared increase in the number of battalion exercises. This assistance is led by the Americans, who

at first primarily undertook the training of detachments of the new National Guard, although as of 2016 they laid primary emphasis on cooperation with the Ukrainian armed forces. The plan until 2020 assumes the training of an average of five battalions of the Ukrainian army (land forces and airmobile troops; detachments of the Special Operations Forces are being trained under separate agreements) per year (in 2016, six battalions were trained, a total of 3000 soldiers; for comparison, during this period American instructors trained three battalions of the National Guard). The training of the Ukrainian army is also being undertaken by British and Canadians, who are mainly involved in preparing basic soldiers (among others, they trained 1254 NCOs in 2016, together with the Americans). Polish instructors also participate in the American-led Joint Multinational Training Group-Ukraine (from the 21<sup>st</sup> Mountain Infantry Brigade). The Lithuanian-Polish-Ukrainian brigade (LITPOLUKRBRIG) should also be considered as training support; they reached full operational capacity in January 2017. International exercises remain relevant to the general level of the Ukrainian armed forces' training; the US is the most important partner in these as well. It is planned for at least 12,500 Ukrainian soldiers to participate in these during 2017 (primarily in the Ukrainian-American 'Sea Breeze' and 'Rapid Trident' exercises).

## VI. EQUIPMENT

Until the war in the Donbas, the Ukrainian army had been operating in a disastrous technical condition. Only the equipment of units participating in missions outside of Ukraine and international exercises was maintained to an appropriate degree. The equipment's technical condition was one of the most important reasons (apart from the soldiers' poor training) for the army's significant losses, particularly in the first period of the conflict. Of the c. 800 armoured fighting vehicles (tanks, armoured combat vehicles, self-propelled artillery, etc.) lost by the Ukrainian armed forces during the first two years of the Donbas war (April 2014 until April 2016), around half of them were abandoned by the crew, usually in circumstances of technical failure (and sometimes of slight damage by enemy fire), and fell into the hands of the separatists. The situation was not helped by the long-time cannibalisation of arms and military equipment, or by the mass sell-off of equipment (Ukraine sold most weapons in the 1990s, although in the period 2005-14 it exported 832 tanks, 714 armoured combat vehicles, 202 planes and 232 helicopters, among others, as well as up to 28,500 pieces of various types of artillery systems and rockets; for comparison, in 2014 the Ukrainian armed forces were armed with 723 tanks, 2426 armoured combat vehicles, 523 artillery systems, 187 planes and 80 helicopters), initially from storehouses (almost from the moment Ukraine became independent), and (starting from the last decade) increasingly from front-line Ukrainian army units as well. After the necessary funding was allocated, based on its technical database (the arms industry as developed during the Soviet era), the Ukrainian army undertook the least expensive repair and overhaul processes possible which would allow it to tackle the most serious problems. By the battle of Debaltsevo in winter 2015, Ukrainian troops already had equipment at their disposal which was predominantly in good working order, although it was by no means the latest or most modern.

In 2014-5, repair and overhaul was undertaken on a massive scale, in the order of thousands of units of heavy weapons and military equipment annually (mainly combat vehicles, artillery, transport, and reconnaissance & communications). It must be stressed, however, that the same pieces were being renovated again and again, refurbished or repaired before being sent to the front in the Donbas, and then withdrawn due to damage or breakdowns which could not be repaired on the spot. In 2016, the amount of repaired and refurbished equipment decreased significantly, which should be associated with the relative calming and stabilisation of the situation in the conflict zone, as well as a drop in low-cost opportunities for repair (thanks to the depletion of spare parts accumulated

from the Soviet era, and a drastic fall in the number of units that could be cannibalised – mostly unsold, stored weapons and military equipment which had been preserved, renovated and distributed to the army in order to make up for losses and to equip the newly-formed units). However, these activities allowed for the newly-developed units of the Land Forces and Airmobile Troops, on which the main burden of the actions in the Donbas rested, to be resupplied to almost 100%. The Air Forces' needs, in terms of necessary repairs and renovations, were only given serious consideration in 2014, during the real threat of full-scale Russian armed aggression (along with the upgraded equipment, the Ukrainian army received 120 operational aeroplanes and helicopters). Meanwhile, the Navy had been almost completely overlooked (it only received six refurbished units in 2016, and for the first time in many years two new ships, small Giurza-M type artillery boats, which can at best serve for patrol tasks on coastal waters).

Despite the increase in the number of new and upgraded units purchased of arms and military equipment, compared to the period prior to the conflict (procurement from 1992-2013 was sporadic and mainly consisted of small batches), their quantity – considering the issue of the Ukrainian armed forces' technical modernisation – should be considered as very far from sufficient. The annual delivery of a few dozen (in the case of the land formations) and (really) barely a dozen or so (in the case of aviation) units of different types of weapons only allowed individual companies to rearm (in the case of the Land Forces), and a maximum of flights (up to 4) in the case of the Air Forces. In addition, in the case of heavy weapons, these were only upgraded units, not new (although the batch of the new BTR-4 armoured personnel carriers was an exception). However, it should be admitted that one positive aspect, helping to promote patriotic attitudes and raising the troops' morale, was the way in which even small quantities of new and modernised weaponry have been handed over to the military during widely publicised ceremonies in which the highest authorities of the state, led by the President of Ukraine, have participated; these ceremonies occur every few months (most recently in October 2016), and so far a total of 157 pieces – often small-arms – of weapons and military equipment has been handed over to the Ukrainian armed forces).

**Table 4.** Number of units of military weaponry, basic categories (according to the CFE) purchased/upgraded and repaired/refurbished (numbers in brackets) in 2013-17

	2013	2014	2015	2016	2017 (plan)
Tanks					
Armoured combat vehicles	- (no data)	54 (4088)	31 (3196)	68 (900 *)	no data (no data)
Artillery of calibre 100 mm and above	- (no data)	18 (670)	- (1743)	- (*)	no data (no data)
Planes and helicopters	2 (no data)	8 (109)	20 (19)	19 (64)	20 (40)

\* total number of armoured combat vehicles and artillery systems

In a situation of armed conflict, on the other hand, where the depletion of the post-Soviet resources of armaments and military equipment is increasingly apparent, the Ukrainian army has completely departed from the standardisation of hardware which had been progressing in parallel to the professionalisation of its personnel, and has begun to use almost all the available resources, whose technical and tactical virtues were demonstrated by their use on the Donbas front (the equipment returned to service included previously withdrawn T-72 tanks and Mi-2 helicopters which had not found buyers, as well as cannons and towed howitzers of types used in the final period of World War II, which had been decommissioned before the breakup of the Soviet Union; one extreme case saw the reintroduction of a Maxim Mk 1915 machine gun). It also became established procedure to extend the period of a piece's usage beyond its permitted service life, especially in the case of the most expensive precision weapons (most of the missiles the Ukrainian army used in the Donbas should have been decommissioned in the previous decade at least). This kind of action will certainly help the Ukrainian armed forces to make up its deficiencies in a short period; eventually, however, it will increasingly complicate the issues of logistical security, in the first place, with regard to the maintenance of arms and military equipment. From the perspective of the life and health of the soldiers themselves, this use of repeatedly renewed weaponry is a separate issue.

It was only at the end of 2016 that the situation, in terms of the security of the basic needs of the technical forces participating in the counter-terrorism

operations, was declared sufficiently well-adjusted for the state to return to developing its long-term armaments policy. Testament to this was the adoption by the Council for the National Security and Defence of Ukraine of the project for the state's programme to develop the Ukrainian armed forces by 2020 (the previous plan from 2006, which was amended in 2011-12, has *de facto* not been implemented). The programme's main goal is for the Ukrainian army to meet the technical standards for membership in NATO. Considering the above-mentioned financial considerations and the potential of the Ukrainian arms industry, this assumption must be regarded as no more than a declaration of intent. The government's awareness of these conditions is demonstrated by the inclusion of specific purchases or weapons upgrades in separate programmes. In the case of the Navy, which has been the most neglected of the armed forces in recent years, the plans to modernise it should be treated first and foremost as a rescue program for the Ukrainian shipbuilding industry (a state programme for constructing corvette-class ships, project 58250, was adopted in parallel with the aforementioned programme for military development).

An insurmountable barrier in the process of the technical modernisation of the Ukrainian armed forces – which is a fundamental matter, unlikely to be resolved in the foreseeable future – is the still insufficient level of funding. After its peak in 2015, expenditure on the purchase and modernisation of weapons (not to mention research and development work) was once again restricted (because of the progressive decline in the value of the hryvnia, the delay in the transfer of funds, and even their periodic interruption in 2016, expenditure for this purpose fell by over 60% compared to 2015). This situation should improve in 2017, although the budget assigns a similar amount for investment to that expected in 2016 (11.7 billion hryvnia, of which 9 billion hryvnia [US\$333 million] will go directly to armament and military equipment), which even in the case of the programme's full implementation will not translate into a qualitative change. The Ukrainian arms companies based at the *Ukroboronprom* state enterprise (which number 105, of which only 56 showed a profit in 2016, and 6 were marked for liquidation) have stated that, even if they receive adequate funding, they could only begin regular supplies of new and upgraded types of weapons and military equipment towards the end of this decade (no earlier than 2018). It should be noted that, despite the domestic boom in armament and military equipment sales associated with the Donbas conflict, the Ukrainian arms industry still exists thanks mainly to its exports (in 2014-16 *Ukroboronprom* signed contracts to export military goods valued at US\$3.8 billion; in 2016, exports amounted to US\$756 million). In the present financial and technical conditions, and with regard to the relatively modest plans announced for the future, the

process of modernising the Ukrainian army has no chance of being started or implemented in the foreseeable future (before the year 2020).

As with the insufficient funding, the prospects for technical modernisation are affected by the Ukrainian arms industry's limited options with regard to its closed production cycles (i.e. the dependence on importing what are often the most important components and assemblies), as well as the acquisition and application of the latest technologies. Although the Ukrainian armed forces receive new types of arms and military equipment every year (15 in 2015, 17 in 2016), they do not represent the latest generations or the basic categories (especially in terms of heavy weapons and precision weapons). Only the Dozor-B armoured car and the 120-mm Molot mortar deserve to be included on the inventory, as these are now probably the most serious items that the Ukrainian arms industry is able to produce entirely independently from scratch. All the basic types of arms and military equipment produced in Ukraine (it should be noted that Ukraine does not produce combat aircraft or helicopters at all) are based on old technologies (often from the mid-20th century, such as the T-64 Bulat main battle tank), or alternatively they use imported components and sub-assemblies (for example, BTR-4 APCs), which are unlikely to be replaced in the foreseeable future, considering the levels at which their Ukrainian counterparts are currently financed. So far Ukraine's efforts to decouple from imports (or to find alternative sources to Russia – the Russian military-industrial complex was and still remains the Ukrainian arms industry's largest contractor) have translated into products of lower quality than before (the Molot) or which have high failure rates (the BTR-4). The periodically announced attempts to create new products (the tactical operational missile Grom-2, based on the Soviet Tochka-U, which is intended to be the Ukrainian equivalent of the Russian Iskander; the Olkha 300-mm multiple rocket launcher, based on the Soviet Smerch) should be primarily treated as offers for potential investors (until recently the Grom project was co-financed by Saudi Arabia) or as a 'propaganda of strength' (attempts to develop the Olkha system had to be made when stocks of rockets for the Smerch system used by the Ukrainian army ran out). In such a situation, the launch of the production in Ukraine of American M16 rifles announced for 2017 (as part of the transition to NATO standards), at least during the first period of their introduction to the Ukrainian army, will not improve the situation, and will only trigger the chaos associated with the need to distribute ammunition and spare parts for assault rifles of two different types of construction.

Two years after the official termination of cooperation between the Russian and Ukrainian arms industries, the Ukrainian army is effectively unable to

function without making purchases from Russia. Without the continual import of components and spare parts, the first machines to be grounded are the helicopters, which undergo continual use as part of the anti-terrorist operation (though they are no longer used in combat actions since the losses incurred in 2014), as are most of the APCs and KrAZ trucks (which have Russian engines) in the Donbas. To a greater (planes) or lesser degree (armoured weapons), the functioning of most Ukrainian weapons and military equipment is dependent on Russian (or post-Soviet) components (even the manufacturer of the entirely Ukrainian Dozor-B from Lviv imports its armour plates from Russia). The embargo means that imports are organised by a network of intermediaries, with the substantial participation of companies from Belarus, and to a proportionally lesser degree from Moldova. Ukrainian counter-espionage necessarily tolerates violations of the embargo (cooperation in exports, mainly of Ukrainian engines for Russian helicopters and ships, remains *de facto* legal), the more so as one of the intermediary companies is Bogdan Motors, which has ties to President Petro Poroshenko (it also handles contracts to supply the Ukrainian army with Chinese ambulances and Belarusian trucks). An extreme example is the Ukrainian army's use of types of diesel oil produced in Russia and designed for military vehicles; in autumn 2016 Russia temporarily halted deliveries because... Ukraine had arbitrarily changed the intermediate company which it had been using.

The Import of weapons and military equipment and components from the West, as well as their acquisition for free as part of the West's assistance, is of marginal importance for the needs of the Ukrainian army (the exceptions are the equipment for the soldiers' personal use and dual-purpose equipment, supplied in relatively large quantities). The nominal value of these contracts significantly exceeds the value of domestic contracts (in 2016, a total of about 40 contracts in the amount of US\$1.5 billion), although this does not change their importance, and the vast majority of them have been implemented within the framework of the military aid. So far, it has been dominated by vehicles, observation equipment, communications equipment, artillery radars and electronic warfare systems (the main suppliers are the United States, and to a lesser extent the United Kingdom and Canada) and medical equipment (Japan). Significant one-off support in the first period of the conflict (2014-15) was provided to the Ukrainian army by the United Kingdom (Saxon APCs), Bulgaria (ammunition) and the Czech Republic (uniforms).

## SUMMARY

In 1992, the newly created Ukrainian armed forces, by taking over three of the four military districts of the Soviet army's strategic second line, acquired the reputation as one of the most powerful armed formations in the world. In the common perception, not even the abandonment of nuclear weapons has changed that. Third-party observers have not paid much attention to the fact that the potential gathered under the banner of the Ukrainian armed forces is only a fragment of a former military superpower, which has not yet been able to become the army of a sovereign state, either in terms of organisation or personnel. Their subsequent development and operation has indicated that these were in effect still the same three (now post-Soviet) military districts, functioning on a kind of momentum from the past, whose potential was declining year on year, thanks to the sales of its arms and military equipment, and the reduction in number of its units and personnel. The actual framework of the Ukrainian army consisted of a few subunits seconded to work with the armed forces of NATO countries, which took part in operations under the Alliance's aegis. However, the attempt to move this cooperation in a more tactical direction ended in a spectacular failure; the soldiers of the Ukrainian Brigade who were sent on a mission to Iraq mainly involved themselves in private business, effectively leaving the flank of the Multinational Division exposed. The true face of the Ukrainian armed forces was revealed by the Russian annexation of Crimea and the first weeks of the war in the Donbas – they were nothing more than a fossilised structure, unfit for any effective function upon even a minimum engagement with the enemy, during which a significant part of the troops only realised whom they were representing in the course of the conflict... and more than once, from the perspective of service in one of the post-Soviet military districts, they chose to serve in the Russian army.

The war in the Donbas shaped the Ukrainian army. It gave awareness and motivation to the soldiers, and forced the leadership of the Defence Ministry and the government of the state to adapt the army's structure – for the first time since its creation – to real operational needs, and also to bear the costs of halting the collapses in the fields of training and equipment, at least to such an extent which would allow the army to fight a close battle with the pro-Russian separatists. Despite all these problems, the Ukrainian armed forces of the year 2017 now number 200,000, most of whom have come under fire, and are seasoned in battle. They have a trained reserve ready for mobilisation in the event of a larger conflict; their weapons are not the latest or the most modern, but the vast majority of them now work properly; and they are ready for the defence of the vital

interests of the state (even if some of the personnel still care primarily about their own vested interests). They have no chance of winning a potential military clash with Russia, but they have a reason to fight. The Ukrainian armed forces of the year 2014, in a situation where their home territory was occupied by foreign troops, were incapable of mounting an adequate response. The changes since the Donbas war started mean that Ukraine now has the best army it has ever had in its history.

**ANDRZEJ WILK**

## APPENDIX 1. Notes on sources

The specific nature of the work of the Centre for Eastern Studies means that this text has been researched exclusively on the basis of publicly available sources, although this information has allowed a relatively complete and verifiable presentation of the changes in the Ukrainian army since the launch of the Russian aggression. The government in Kyiv – regardless of who is in charge of it – have conducted one of the most transparent policies in military matters, and any activities related to all the possible pathologies within the structures of the armed forces and the Ukrainian Defence Ministry are regularly disclosed in Ukrainian media (both Ukrainian- and Russian-speaking). Paradoxically, the potentially dangerous leakage of adverse information regarding the defence of the state is the responsibility of soldiers and officials themselves. A bigger problem is informational chaos, in which the reports submitted tend to conflict with each other, not so much because of deliberate attempts at misinformation, but rather because of the mistakes and errors made in the process of their (often hectic) preparation.

Most of the information contained in this report comes from documents and statements by representatives of the Ukrainian authorities (including local authorities) and the leadership of the Ukrainian army, as provided on the following websites:

- the President of Ukraine (<http://www.president.gov.ua/>);
- the parliament of Ukraine (<http://rada.gov.ua/>; its website includes a search engine for legal acts: <http://zakon0.rada.gov.ua/laws>) and its press organ *Holos Ukrainy* (<http://www.golos.com.ua/>);
- the Defence Ministry of Ukraine (<http://www.mil.gov.ua/>);
- the National Security and Defence Council of Ukraine (<http://www.rnbo.gov.ua/>).

Information on current events has been sourced from generally available news agencies:

- Unian (<http://www.unian.ua/>);
- Interfax-Ukraine (<http://ua.interfax.com.ua/>).

Despite being under the control of the Moscow headquarters of Interfax (via the Interfax Information Service Group), the Interfax-Ukraine agency is a relatively reliable source of information on current events.

In order to increase the readability of the text, footnotes have only been added in cases in which the information needs clarification deviating from the fundamental content. Reference to official reports only appears in cases of ambiguity or discrepancies relevant to the problem under discussion.

Despite the importance which changes in the armed forces' personnel has for the current security situation of Ukraine, they have not as yet formed the topic of a major report for public consumption. Only partially - due to the publisher and the nature of the publication - do such studies fill the role of the annually published 'White Paper' of the Ukrainian Defence Ministry (<http://www.mil.gov.ua/diyalnist/bila-qniga.html>).

## APPENDIX 2. Structure and home bases of the Land Forces, Airmobile Troops and Marine Corps (general military units and support units)

Grouping	Unit	Home base	Notes
Operational Command 'West' (Rivne)	10. Mtn.Inf.Bde. *	Kolomyia	nominally mountain-assault
	14. Mech.Bde. **	Volodymyr-Volynskyi	
	24. Mech.Bde.	Javoriv	
	128. Mtn.Inf.Bde.	Mukachevo/Uzhhorod	
	44. Art.Bde. ***	Ternopil	towed artillery
	39. AD.Rgt. *****	Volodymyr-Volynskyi	
Operational Command 'North' (Chernihiv)	1. Arm.Bde. ****	Honcharivskie	
	30. Mech.Bde.	Novohrod-Volynskyi	
	58. Mot.Bde. *****	Sumy/Konotop	
	72. Mech.Bde.	Bila Tserkva	
	26. Art.Bde.	Berdychiv	self-propelled artillery
Operational Command 'East' (Dnipro)	1129. AD.Rgt.	Bila Tserkva	
	17. Arm.Bde.	Kryvyi Rih	
	53. Mech.Bde.	Severodonetsk	
	54. Mech.Bde.	Bakhmut	
	92. Mech.Bde.	Bashkyrivka	
	93. Mech.Bde.	Cherkaskie	
	55. Art.Bde.	Zaporizhia	towed artillery
Operational Command 'South' (Odessa)	1039. AD.Rgt.	Hvardijske	
	28. Mech.Bde.	Chornomorske	
	56. Mot.Bde.	Myrne	
	57. Mot.Bde.	Kropyvnytskyi	
	59. Mot.Bde.	Haisyn	
Central subordination	40. Art.Bde.	Pervomaysk	towed artillery
	38. AD.Rgt.	Nova Odessa	
	19. R.Bde. *****	Khmelnyskyi	
	27. RA.Bde. *****	Sumy	
	43. Art.Bde.	Divychky	so-called great power; self-propelled
	15. RA.Rgt. *****	Drohobych	
	107. RA.Rgt.	Kremenchuk	
	11. A.Avn.Bde. *****	Chornobayivka	
	12. A.Avn.Bde.	Kaliniv Novy	
	16. A.Avn.Bde.	Brody	
18. A.Avn.Bde.	Poltava		

Grouping	Unit	Home base	Notes
4. Army Corps (reserves)	3. Arm.Bde.		being created
	5. Arm.Bde.		posted to the operational command 'South'
	14. Arm.Bde.		being created
	15. Mech.Bde.		being created; posted to the operational command 'South'
	33. Mech.Bde.		
	60. Mech.Bde.		posted to the operational command 'South'
	61. Mech.Bde.		being created
	62. Mtn.Inf.Bde.		
	63. Mech.Bde.		being created
45. Art.Bde.		towed artillery	
Airmobile Troops	25. Abn.Bde. *****	Hvardiyskie	
	45. Air.Asslt.Bde.	Bolhrad	
	46. Air.Asslt.Bde.	Poltava	
	79. Air.Asslt.Bde.	Mykolaiv	
	80. Air.Asslt.Bde.	Lviv	
	81. Ambl.Bde. *****	Druzhkivka	
	82. Ambl.Bde.		posted to the operational command 'South'
	95. Air.Asslt.Bde.	Zhytomyr	
Navy Command	36. Nav.Inf.Bde. *****	Mykolaiv	
	406. Art.Bde.	Mykolaiv	
	32. RA.Rgt.	Altestove	

\* Mountain Infantry Brigade

\*\* Mechanised Brigade

\*\*\* Artillery Brigade

\*\*\*\* Armoured Brigade

\*\*\*\*\* Motorised Brigade

\*\*\*\*\* Air Defence Missile Regiment

\*\*\*\*\* Missile Brigade

\*\*\*\*\* Rocket Artillery Brigade

\*\*\*\*\* Rocket Artillery Regiment

\*\*\*\*\* Army Aviation Brigade

\*\*\*\*\* Airborne Brigade

\*\*\*\*\* Air Assault Brigade

\*\*\*\*\* Airmobile Brigade

\*\*\*\*\* Naval Infantry Brigade

The task of the units posted to operational command 'South' is to safeguard the territory of Ukraine from occupied Crimea.

## Structure and home bases of the Air Forces and Naval Aviation

Grouping	Unit	Home base	Notes
Air Command 'West' (Lviv)	114. Avn.Bde. *	Ivano-Frankivsk	MiG-29
	11. AD.Rgt.	Shepetivka	Buk-M1
	223. AD.Rgt.	Stryi	Buk-M1
	540. AD.Rgt.	Kamianka Buzka	S-200, S-300
Air Command 'Centre' (Vasylkiv)	40. Avn.Bde.	Vasylkiv	MiG-29
	831. Avn.Bde.	Myrhorod	Su-27
	96. AD.Bde. **	Danylivka	S-200, S-300
	138. AD.Bde.	Dnipro	S-300
	156. AD.Rgt.	Zolotonosha	Buk-M1
Air Command 'South' (Odessa)	204. Avn.Bde.	Kulbakyne	MiG-29
	299. Avn.Bde.	Kulbakyne	Su-25
	160. AD.Bde.	Odessa	S-300
	208. AD.Bde.	Kherson	S-300
	201. AD.Rgt.	Pervomaisk	S-300
Air Command 'East' (Dnipro)			no assigned combat units and support
Central subordination	7. Avn.Bde.	Starokonstantyniv	Su-24 m, Su-24MR
Navy Command	10. Nav.Avn.Bde. ***	Mykolaiv	

\* Tactical Aviation Brigade

\*\* Air Defence Missile Brigade

\*\*\* Naval Aviation Brigade

### APPENDIX 3. The equipment of the Ukrainian armed forces (the basic categories of armaments according to the Treaty on Conventional Armed Forces in Europe), as of the beginning of 2017

Tanks	Combat infantry vehicles	APCs	Artillery of calibre 100 mm and above	Combat aircraft	Combat helicopters
<b>By type (in the case of artillery)</b>					
T-64* - 710	BMP-1 - 193	BTR-3 - 90	cannons and towed howitzers -1015 ****	MiG-29 - 37	Mi-24 - 35
T-72 - 70	BMP-2 - 890	BTR-4 - 78	Mortars - 310 *****	Su-27 - 34	
T-80 - 22	BMD-1 - 15	BTR-70 - 215	Cannon and self-propelled howitzers - 572 *****	Su-25 - 31	
T-84 Oplot - 10	BMD-2 - 15	BTR-80 - 93	Multi-missile launchers - 360 *****	Su-24M - 14	
		BTR-D - 15		Su-24MR - 9	
		Saxon** - 40			
<b>Total</b>					
<b>812</b>	<b>1113</b>	<b>531***</b>	<b>2257</b>	<b>125</b>	<b>35</b>

\* post-Soviet T-64BWs and upgraded T-64BM Bulats

\*\* In addition, 35 vehicles as command vehicles

\*\*\* In addition, c. 1500 MT-LB tracked transporters, used as security vehicles and artillery tractors

\*\*\*\* including 152 mm: 2A36 Hiatsynt-B (180 units), 2A65 Msta-B (130 units), D-20 (130 units), 122 mm: D-30 (75 units), 100 mm (AP): T-12 Rapira (500 units)

\*\*\*\*\* including 120 mm: 2S12 Sani (190 units), M120-15 Molot (120 units)

\*\*\*\*\* including 203 mm: 2S7 Pion (6 units.), 152 mm: 2S3 Akatsia (235 units), 2S5 Hiatsynt -S (18 units), 2S19 Msta-S (35 units), 122 mm: 2S1 Gozdik (238 units), 120 mm: 2S9 Nona (40 units)

\*\*\*\*\* including 300 mm: 9K58 Smerch (75 units), 220 mm: 9K57 Uragan (70 units), 122 mm: BM-21 Grad (185), 9K55 Grad-1 (18 units), Bastion-01 (12 units.)

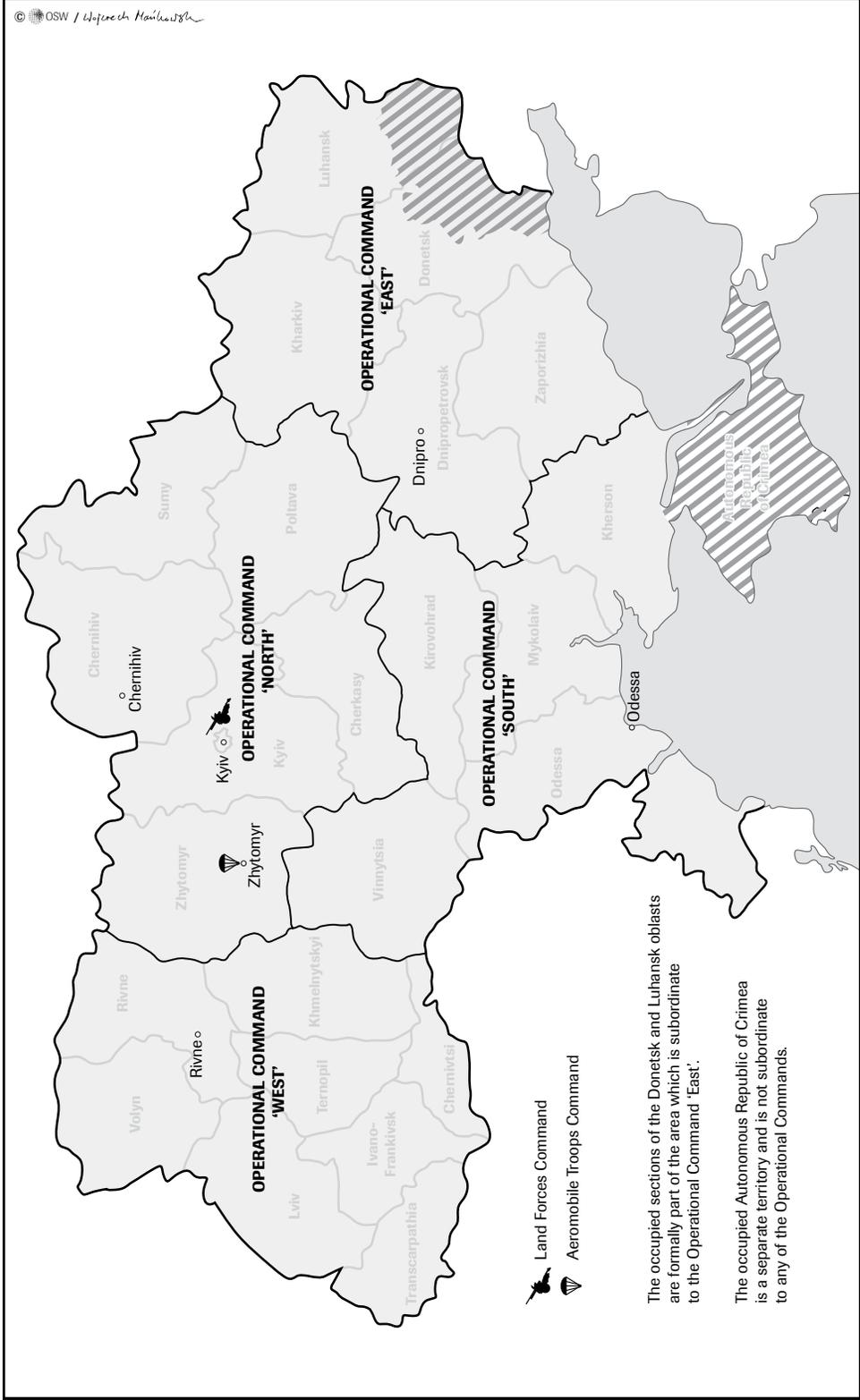
In addition, the Land Forces also have up to 90 9K79-1 Tochka-U operational-tactical missile launchers with a range of 120 km (12 of which are in the 19<sup>th</sup> Missile Brigade, the others are in storage).

## Naval ships of Ukraine

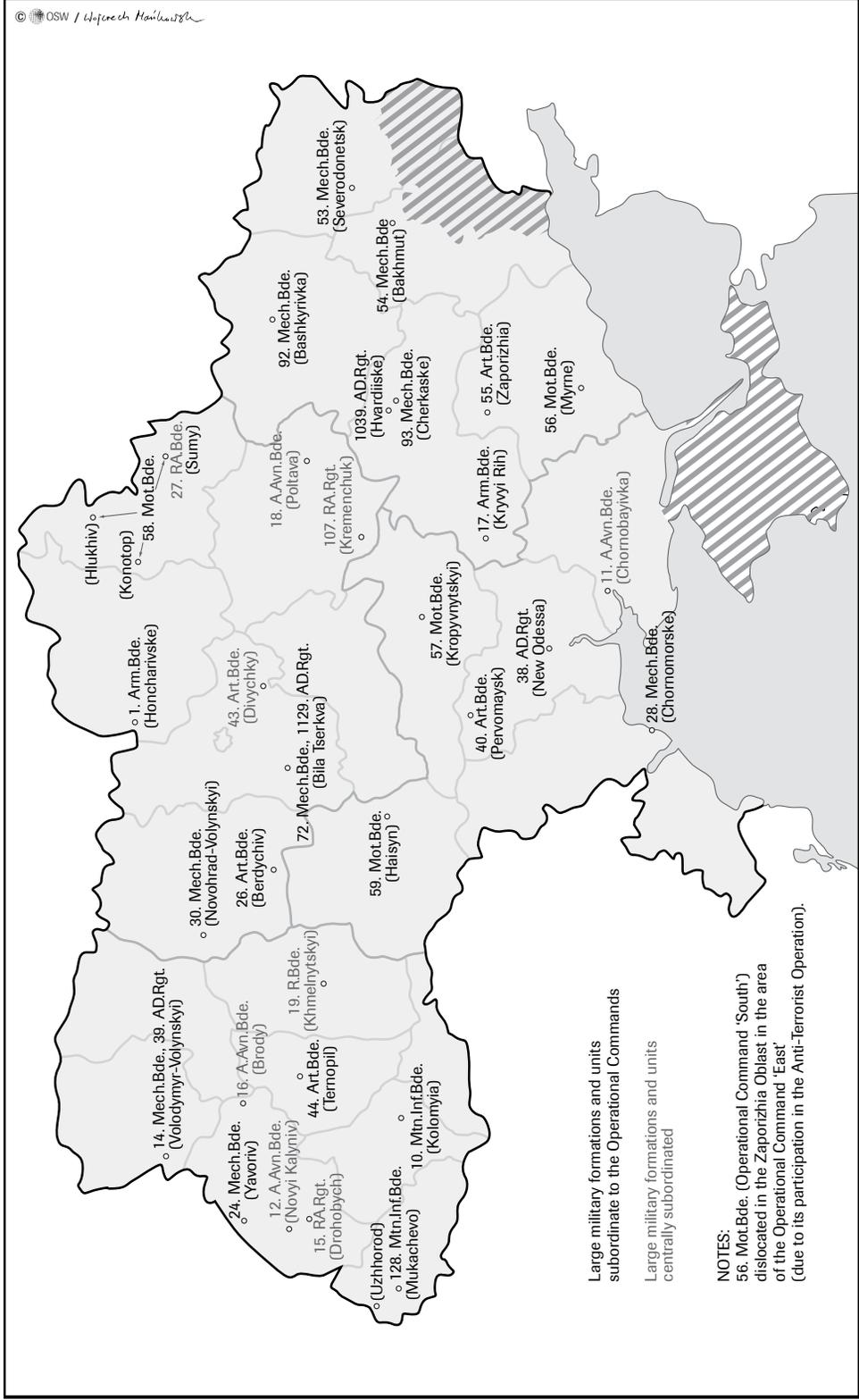
Frigate	Corvettes	Class landing platform dock	The boats rocket & artillery	Amphibious boats	Trawlers
By type					
project 1135-1 ('Hetman Sahaidachny')	project 1124 m-1 ('Vinnytsya')	project 773-1 ('Yuri Olefrenko')	project 206MR *-1 ('Pryluky')	project 1176-1 ('Svatove')	project 1258E-1 ('Henichesk')
			project 1400 m-1 ('Skadovsk')		
			Project B-376-3 ('Rivne', AK-02, AK-03)		
			project 58155 Giurza-M-2 ('Akkerman', 'Berdiansk')		
<b>Total</b>					
<b>1</b>	<b>1</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>1</b>

\* The only missile boat in the structure of the Ukrainian Navy; the other units are only artillery boats

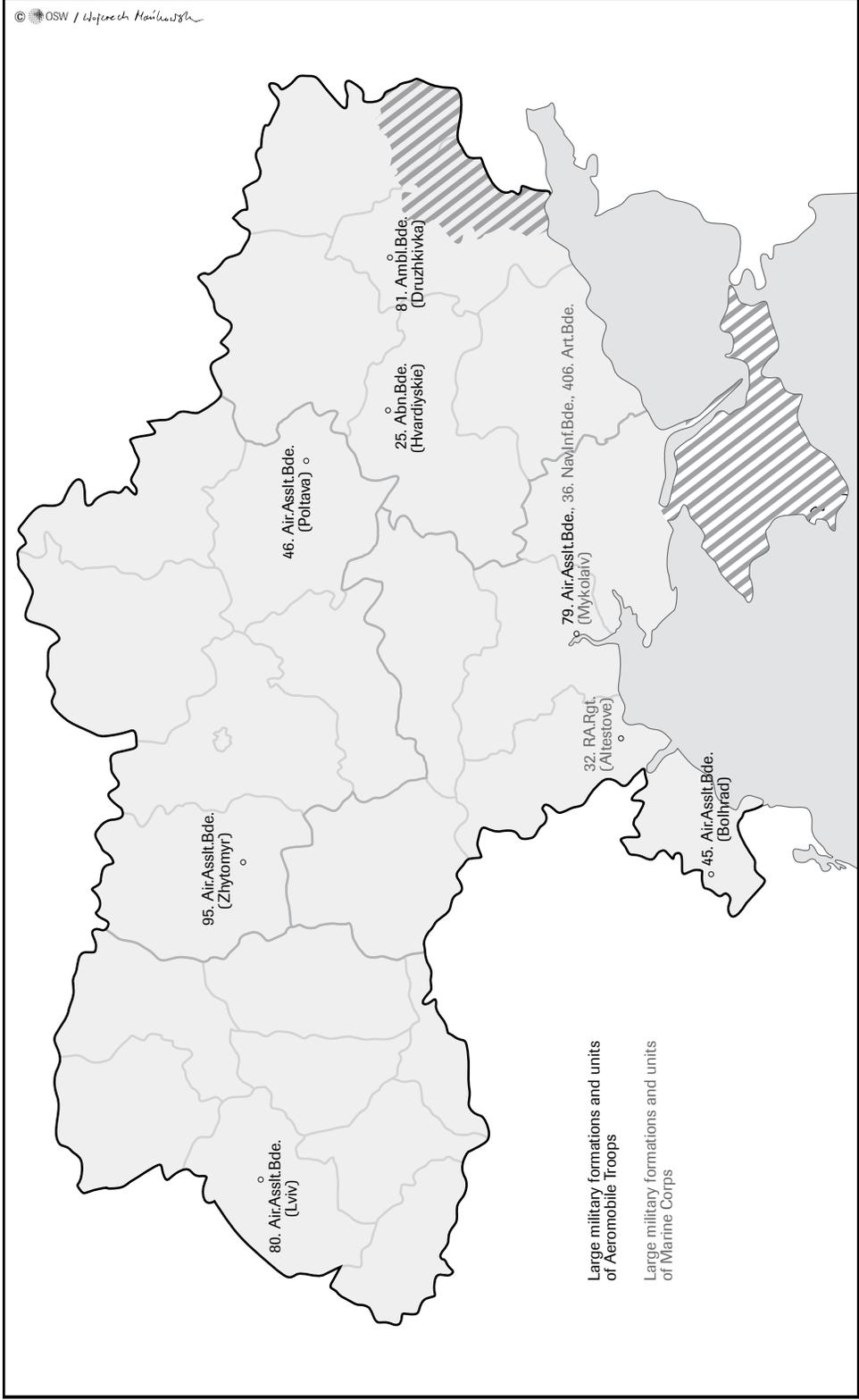
Map 1. Combatant Commands of Ukrainian Land Forces



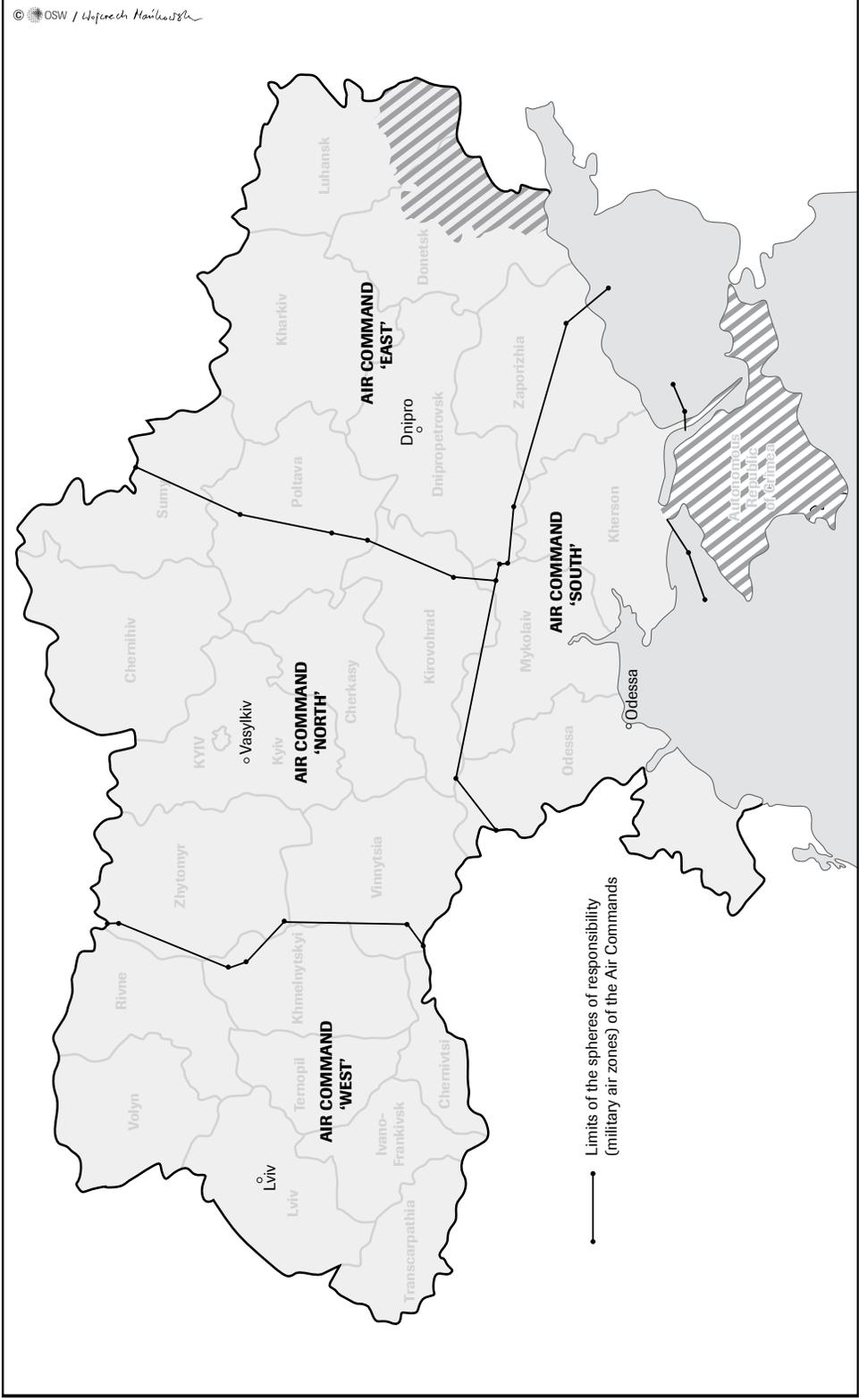
**Map 2. Dislocation of the Land Forces general military and combat support units**



Map 3. Dislocation of the Aeromobile Troops and Marine Corps (general military and combat support units)



Map 4. Spheres of responsibility of the Air Commands



Map 5. Dislocation of the Air Force and Naval Aviation units

