

SCEEUS GUEST REPORT
NO. 6, 2023

SCEEUS STOCKHOLM CENTRE FOR
EASTERN EUROPEAN STUDIES

SCEEUS REPORT SERIES ON UKRAINIAN DOMESTIC AFFAIRS, NO. 5

Ukrainian Armed Forces: a Year of Fighting Russia

Johan Huovinen
20 April 2023



Executive Summary

The Ukrainian Armed Forces (UAF) have fought well over the past year with existing equipment but suffered substantial losses, especially of main battle tanks and infantry fighting vehicles. The US-led Ramstein process has managed to coordinate replacements to the level requested by Ukraine, but deliveries are still awaited. Once rearmed, the UAF will be able to launch new offensive operations.

Ukrainian air defence has proved itself to the utmost and been reinforced but the newly arrived Western air defence systems are likely to need further integration into a system of systems in order to be fully effective against Russian cruise and ballistic missile attacks. The air force's lack of fully established command and control for air interception is seen as the weakest part of Ukrainian air defence. The UAF will need continuous technical support in order to fully enhance its air defence capacity.

It is important to note that what Ukraine has received is not traditional military surplus but rather active military equipment. Western allies must provide Ukraine with sustainable technical support for all types of delivered military hardware, especially as it will be difficult to provide additional heavy equipment in the future.

Ukraine's weak military resources in the air and at sea make it less likely that there will be any significant joint operations in the near future. Ukraine's main operational domain will be on land. The UAF must avoid further entrenching positions and being pulled into endless artillery duels in order to save resources for future offensive operations. The UAF must try to explore more manoeuvre warfare with battalion- or brigade-sized units.

Background

One year after Russia launched its full-scale invasion, the Ukrainian Armed Forces (UAF) are still fighting Russian aggression on a daily basis. The UAF have shown the world in the past year that they have both defensive and offensive capabilities. The operational objectives and intensity of Russia's aggression have changed over the past 13 months but Russia's overarching strategic objective remains the same. The initial phase of Russia's brutal aggression can be described as an offensive land war in combination with missiles targeted primarily at military infrastructure in Ukraine. Russia's withdrawal from the Kyiv region in April was a landmark. Ukraine managed to start counteroffensives within six months. In reaction, Russia changed its strategy to instead target critical infrastructure, such as energy supplies. The war in Ukraine has stalled somewhat in recent months, but with continuing heavy casualties linked to artillery duels and First World War-style assaults, involving very little military offensive movement and small-scale tactical assaults.

Capabilities

The UAF comprise at least 21 manoeuvre brigades (Tank, Mechanized, Motorized or Airmobile) but these have taken a heavy toll in the past year's heavy fighting; 17 of the brigades belong to the Army and four are subordinated to the Airborne forces. Ukraine has probably lost 60% of its tanks and at least 20% of its infantry fighting vehicles (IFVs).

Losses of artillery and Multi Launch Rocket Systems (MLRS) do not seem to be that high in number. Ukraine still has hundreds of older artillery pieces but has run low on ammunition for these elderly Soviet-era systems. It is not only the intensive artillery shelling in 2022 that has brought Ukraine to the brink regarding artillery ammunition; the past nine years of war has also emptied Ukrainian warehouses. Ukraine was already running low on spare parts for IFVs and artillery ammunition before February 2022.

The Ukrainian Navy has no major presence in the Black Sea but there are a small number of Ukrainian patrol and gun boats on the Danube River and in the littoral waters of Ukraine. The Navy plays an important role in coastal defence. Ukraine has several anti-ship missile systems, such as the Ukraine-made Neptune, the Swedish-made RBS-17 and the US-made Harpoon.

Before February 2022, the Ukrainian Air Force Sukhoi SU-25 fleet numbered around 30 aircraft. The figure is today thought to be less than 15. It is thought to have entered the war with 50 Mig-29 fighter jets but there have been at least 16 confirmed losses. The number of Ukrainian SU-27s is very uncertain. It is thought that Ukraine had 24 active SU-27s in 2014 but other sources claim that in February 2022 Ukraine had 57 fighters with individual side numbers painted. It is unlikely that all 57 fighters were able to fly. The Ukrainian Air Force has lost at least seven SU-27 fighters over the past year. The Air Force had some 24 Sukhoi SU-24 bombers and reconnaissance aircraft before February but has since lost at least 13 SU-24 of these. The Ukrainian Air force has therefore probably lost close to 50% of its platforms in one year of fighting.

Military Support and Training

The Canadian Armed Forces provide military training and capacity building for the UAF under Operation Unifier, which was launched in 2015 at the request of the Ukrainian government, expanded in 2022 and extended until March 2025. Sweden has supported Operation Unifier by providing instructors. Operation Unifier has trained 35 000 Ukrainian soldiers.¹ It is now part of the United Kingdom-led training programme, Operation Interflex.

The extensive British military support to Ukraine also began in 2015 when Operation Orbital provided limited combat training to 22 000 Ukrainian soldiers.² After the February 2022 invasion, the UK started Operation Interflex, which involves instructors from 11 countries, among them Sweden. As of November 2022, approximately 7400 Ukrainian military personnel had completed training in the UK.³ The British Royal Navy is training Ukrainian sailors and the British Army is currently providing training on the British main battle tank (MBT) Challenger 2. There have also been other smaller training and capacity building initiatives by various countries since 2015. The US and Estonia have both supported Ukraine's Special Forces.⁴

In the late autumn of 2022, after several months of intensive fighting, the Commander-in-chief of the Armed Forces of Ukraine, General Valery Zaluzhny, set out a wish list of what

1 Government of Canada (2023) "Operation UNIFIER", updated 28 March, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-unifier.html>.

2 Embassy of Ukraine to the United Kingdom of Great Britain and Northern Ireland (2020-05-01), "Operation Orbital", <https://uk.mfa.gov.ua/en/partnership/881-ukrajina-velika-britanija/operaciya-orbital>

3 Richard Thomas (2022-11-11), <https://www.army-technology.com/features/operation-interflex-ukrainian-recruits-prepare-for-war/>

4 Postimees (2015-10-15), <https://news.postimees.ee/3363849/members-of-the-estonian-special-forces-to-help-train-ukrainian-military>

Kyiv considered it needed to continue offensive operations. The list included 300 tanks, 700 infantry fighting vehicles and 500 howitzers.⁵

In January 2023, France was the first to announce that it would supply AMX-10-RC anti-tank armoured vehicles as part of a support package; 40 are expected to be delivered. This broke the ice and by February 2023 several European states had agreed to deliver some 65 Leopard 2 tanks to Ukraine. Poland has also stated that it will provide Ukraine with Leopard 2 tanks and additional T-72 type tanks. The UK finally agreed to deliver 28 Challenger 2 tanks and the US announced that it would provide 31 Abrams MBTs. In 2022, Ukrainian brigades lost on average two out of three tank companies in each tank battalion. The number of tanks so far received from the West is approximately half that requested by Ukraine. Germany has offered an additional 50 Leopard 2 tanks and some 88+ Leopard 1 MBTs to be delivered later this year. These tanks would make up the numbers needed by Ukraine.⁶

Ukraine has also recently received guarantees of infantry fighting vehicles (IFVs) from several countries. The US has delivered 90 Stryker armoured personnel carriers and 59 Bradley IFVs. Germany has provided 100 Marder IFVs and Sweden will provide 50 CV90 IFVs. The UK has announced that it will send Ukraine 100 armoured vehicles, including Bulldog tracked armoured personnel carriers. Canada has announced that it will provide Ukraine with 200 armoured personnel carriers. Several countries, among them Czechia and Poland, are already providing and will continue to support Ukraine with high numbers of older Soviet-style IFVs.

Ukraine is thought to have received more than 400 artillery pieces from the collective West thus far. The US transferred 142 M-777 howitzers and Ukraine has received approximately 300 pieces of towed and self-propelled 155-mm artillery. Estonia and Denmark have transferred all their artillery pieces. Sweden will provide the 155-mm Archer system. Ukraine has also received large amounts of ammunition. The US has provided Ukraine with 45 000 152-mm rounds and 20 000 122-mm rounds. The EU has agreed to provide Ukraine with 1 million rounds of artillery ammunition over the next 12 months⁷.

Long-range missile systems such as the US-made HIMARS and British-made M270 were a game changer when they arrived in Ukraine in the summer 2022. They gave Ukraine the ability to strike Russian logistics and ammunition depots as well as tactical HQs and a larger concentration of units. The use of long-range missile systems has forced Russia to set up longer lines of logistics and supply.

In October 2022 there was a change in Russian strategy. Instead of targeting military infrastructure, the Russian Armed Forces began to target critical civilian infrastructure, more in the style of John A. Warden's five rings.⁸ This time the Russian side was using older cruise missiles launched primarily by the air force, in combination with Iranian made drones. During the summer and autumn, Ukraine received several Western air-defence systems such as the National Advanced Surface-to-Air System (NASAMS), the German IRIS-T, the Italian Aspide and the HAWK from the US and Spain⁹. The IRIS-T has proved itself a highly effective system. All these systems have relatively similar capacity but the extent to which

5 Interfax (2022-12-20), <https://en.interfax.com.ua/news/general/879537-amp.html>

6 Thomas Bolton (2023), updated 7 March, <https://www.euronews.com/2023/03/05/which-countries-are-sending-heavy-weapons-to-Ukraine-and-is-it-enough>

7 Eszter Zalan (2023-03-23), <https://euobserver.com/ukraine/156866>

8 Warden, John A. III (1988), *The Air Campaign: Planning for Combat*, Washington, D.C.: National Defense University Press

9 Sakshi Tiwari (2023-01-23), <https://eurasianimes.com/powerful-modern-effective-ukraines-air-defense-operator-thrilled/?amp>

they are operational is still unclear. It is easy to imagine the technical and logistical problems that the Ukrainian side must be struggling with.

Czechia has provided Ukraine with 30 Tatra Treva armoured recovery vehicles. The Tatra Treva will play an important role in recovering damaged MBTs and IFVs, especially as very few additional vehicles are likely to be available in the near future.

At the end of January 2023, just after the 8th Ramstein meeting, Ukraine reactivated the discussion on fighter jets. Discussions have covered the Mig-29 and the F-16, the Eurofighter and the Swedish Gripen. Poland, Slovakia, and Bulgaria have Mig-29s that could be made available to Ukraine, and Slovakia and Poland have announced that they will provide Ukraine with Mig-29s. Poland has delivered the first four fighters,¹⁰ and the rest will follow shortly afterwards. Their status has been described as non-combat ready. They could possibly be cannibalized for spare parts or would need to undergo maintenance to make them operational.

Ukraine also needs fighter jets, but not just the aircraft. Providing Ukraine with fighter jets without a proper system for command and control would be possible but would limit the Ukrainian air force in its tasking primarily to conducting close air support and bomber strikes. Close air support and bomber strikes are not priority tasks for the air force since Ukraine has long range missile systems such as HIMARS and the M270. Without the Link 16 communications system, establishing a radar air picture over Ukraine will be difficult if not impossible, which is crucial for the classic interception role of fighters. This is a very important role for Ukraine when seeking to counter cruise missiles and denying Russia air superiority.

Sustainability

In February 2022, the Russian Armed Forces focused on demilitarizing Ukraine by launching massive cruise and ballistic missile attacks on Ukraine's military infrastructure. This included not only airports, ports, radar, and military HQs, but also military warehouses, military workshops and military industry. The famous Malyshev tank plant in Kharkiv is still not operational today. The German company Rheinmetall claims that for about €200 million, it could construct a factory in Ukraine to produce the still under development German Panther (KF51) tank.¹¹ Rheinmetall has decided to build a maintenance and logistics centre in Satu Mare, Romania.

Apart from fighter jets, Ukraine has received more or less what it has asked for. The collective West has struggled to gather together the numbers Ukraine has been asking for, but has managed this through coordination in the US-led Ramstein format. The accumulated military technical support gathered for Ukraine has to some extent depleted the West's store of military hardware. There is not much more available for Ukraine without literally clearing the storage facilities of certain countries. That would mean countries taking risks with their own national defence capability, and possibly also affect NATO's collective defence capability.

Personnel

As of early 2023, the UAF were assessed to comprise some 250 000 personnel, of whom 55 000 are thought to be civilians. Ukraine has since 2021 had an additional 37 000 active

¹⁰ Julian Borger (2023-03-16), <https://www.theguardian.com/world/2023/mar/16/ukraine-poland-fighter-jets-mig-29>

¹¹ The Defense Post (2023-03-05), <https://www.defensepost.com/2023/03/05/rheinmetall-tank-factory-ukraine/amp/>

reserve soldiers in its relatively new Territorial Defence Force (TDF). The total strength of the TDF is unclear,¹² but it is likely that there are at least 250 000 troops in a somewhat loose configuration.¹³ The TDF should not be seen as a regular force but as a local resistance force with limited defence capability. Additional forces to be used for active service are the National Guard, with 60 000 troops; the Border Guards, with 53 000 service personnel; and the Security Service of Ukraine (SBU).

In August 2022, General Zaluzhny announced that 9 000 Ukrainian soldiers had been killed. In December 2022, Mykhailo Podolyak, an adviser to President of Ukraine Volodymyr Zelensky, estimated that 13 000 Ukrainian soldiers had been killed.¹⁴ A more recent assessment is that the Ukrainian side has lost 14 000 troops in the war thus far. There are no official figures for wounded but more than 50 000 Ukrainians are assessed to have been wounded.¹⁵

Morale

The past nine years of war has shaped the Ukrainian people and its soldiers. Ukrainian society has changed to what can be seen today fighting on the battlefield. The views in Ukrainian society and among individuals on Russia and the Russian population have also changed.

Ukraine implemented martial law on 24 February 2022.¹⁶ Ukraine also organized a general mobilization, which means that all citizens aged between 18 and 60 can be called up for military service unless they have legal grounds for not serving. During martial law, men aged between 18 and 60 are prohibited from travelling abroad.¹⁷ The UAF is still primarily reliant on professional soldiers and volunteers, the latter primarily in the TDF. There are no official figures on how many people have been called up for military service in support of the general mobilization.

Thus far, there has been no mass run for the border by the male population in order to avoid being called up for combat service, as was seen in Russia when partial mobilization was announced. There seems to be a broad spread opinion that the war with Russia constitutes Ukraine's faith in the future. The general opinion among the male population seems to be that Ukraine cannot afford to lose this war¹⁸.

The Ukrainian volunteer movement has been growing since 2014 and is now an important factor for the UAF. These Ukrainian volunteers can be considered part of civil society. Before 2014, public trust in the UAF was quite low, but in the eight years before February 2022 the UAF slowly improved its reputation as a trustworthy and transparent organization. The Ukrainian volunteer movement has from time to time acted as an auditor for society. It has even made it into the Ukrainian Ministry of Defence. The general mobilization has also brought in new energy from civil society, with experienced private sector entrepreneurs

12 Ukrainian Armed Forces (2022-01-19), <https://mil.in.ua/en/news/in-ukraine-will-be-formed-more-than-150-territorial-defence-battalions/>

13 European Parliament (2022 March), [https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/729292/EPRS_ATAG\(2022\)729292_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/729292/EPRS_ATAG(2022)729292_EN.pdf)

14 Elsa Maishman, Jaroslav Lukiv (2022-12-02), <https://www.bbc.com/news/world-europe-63829973>

15 Helene Cooper, Erich Schmitt, Thomas Gibbon-Neff (2023-02-02), <https://www.nytimes.com/2023/02/02/us/politics/ukraine-russia-casualties.html>

16 Ukraine Invest (2023), <https://ukraineinvest.gov.ua/response-to-war/helpdesk/martial-law/>

17 Visit Ukraine Today (2023-01-30), <https://visitukraine.today/blog/1453/mobilization-in-ukraine-why-summonses-began-to-be-distributed-en-masse-on-the-streets>

18 Tomoko Ohji (2022-03-08), <https://mainichi.jp/english/articles/20220308/p2a/00m/0op/005000c>

among others now in the UAF. This new civil society energy has been less willing to accept routine corruption.

Conclusions

The Ukrainian army has suffered substantial losses of equipment, especially tanks and IFVs, during the year of fighting but the US-led Ramstein process has managed to coordinate replacements up to the numbers requested by Ukraine. Once rearmed, the UAF will be able to launch counteroffensive operations. However, there is still an apparent shortage of artillery ammunition of all calibres, and this shortage is not likely to be resolved in the foreseeable future. The production and procurement of artillery ammunition must be prioritized by the West and Ukraine.

Ukrainian air defence has proved itself to the utmost and has been reinforced. However, the newly arrived Western systems will probably need further integration to be fully effective. The failure of the Ukrainian Air Force to establishing full command and control for air interception is seen as a weakness in Ukraine's air defence. The Ukrainian Air Force will need continuous technical support in order to enhance its air defence capacity.

The military equipment and ammunition obtained from Western countries thus far probably constitutes the main bulk of available military equipment in Europe. It is important to note that what Ukraine has received is not traditional military surplus but active military equipment.

Given Ukraine's weak military resources in the air and at sea, it is less likely that there will be any significant joint operations in the near future. Ukraine's main operational domain will be on land. The Ukrainian Armed Forces continue to enhance their combat capability with support from the British-led Operation Interflex and heavy equipment providers. The continuing flow of heavy equipment to Ukraine indicates that the war will probably be prolonged, and last longer than initially assessed.

Recommendations

The West must continue with its important basic military training of Ukrainian troops like in Operation Interflex, as well as specialist training on the heavy military equipment Ukraine has received. The number of Ukrainian troops undertaking such training should be increased.

In order to save resources for future offensive operations, the UAF must seek to avoid further entrenching positions and being pulled into endless artillery duels. The UAF must try to explore manoeuvre warfare using battalion- or brigade-sized units and try to identify gaps in the already thinly spread Russian defence lines in order to reach weaker Russian positions.

Western support with heavy equipment and ammunition must continue. The shortage of artillery ammunition is unlikely to be resolved in the foreseeable future. The production and procurement of artillery ammunition must be given priority, both within Ukraine and among Ukraine's allies.

Western allies must provide Ukraine with sustainable technical support for all the types of military hardware it has delivered, especially since it will be difficult to provide additional heavy equipment in the future.



Johan Huovinen

Lieutenant Colonel, military teacher at the Department of Strategy, Swedish Defence University (FHS).

About SCEEUS

The Stockholm Centre for Eastern European Studies (SCEEUS) at the Swedish Institute of International Affairs (UI) is an independent Centre, funded by the Swedish Government, established in 2021. The Centre conducts policy relevant analysis on Russia and Eastern Europe and serves as a platform and meeting place for national and international discussions and exchanges on Russia and Eastern Europe. Any views expressed in this publication are those of the author.

© 2023 Stockholm Centre for Eastern European Studies

Cover image: AP Photo/LIBKOS

Previous SCEEUS Publications:

Key Expectations and Deliverables of the Upcoming EPC Summit in Moldova by Iulian Groza

SCEEUS Guest Platform for Eastern Europe Policy No. 37

From Invasion to Recovery: Evaluating the Macroeconomic Implications of Russia's War in Ukraine and the Way Forward by Iuliya Markuts

SCEEUS Report Series on Ukrainian Domestic Affairs, No. 4