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Ukraine's Quest for Air Superiority

By Aswin Jia-Song Lin

SYNOPSIS

Ukraine's counteroffensive against the Russian invasion appears to have stalled. This has added urgency to President Volodymyr Zelensky's appeals to NATO countries for F-16 fighter jets, which could help in his quest for air superiority and provide cover for his military forces. But will F-16s help Ukraine to achieve command of the air?

COMMENTARY

In the ongoing Ukraine war, Kyiv's crucial need for control of the sky remains [unfulfilled](#). Due to its Soviet legacy, Ukraine's air force remains severely limited, comprising a meagre fleet of aircraft. While Poland and Slovakia have contributed [MiG-29](#) jetfighters, they are still insufficient. Ukraine President [Volodymyr Zelensky](#) has persistently emphasised the necessity for US-made F-16s to reinforce his air force.

US President Joe Biden had expressed [hesitancy](#) on multiple occasions when it comes to fulfilling this request. However, a significant [shift](#) has occurred. At the G-7 summit in Hiroshima in late May, the US president delivered long-awaited positive news to his Ukrainian counterpart. Previously, Western powers believed Ukraine did not require fighter jets for defence against Russia, but their stance has now [changed](#). Besides the US decision, Denmark and the Netherlands were reported on 21 August to have also committed themselves to [supplying F-16 aircraft to Ukraine](#).

Ukraine's Need for F-16s

Significant risks are faced by Russian aircraft when entering Ukrainian airspace due to the country's robust [air defence](#) systems inherited from the Soviet era. Ukraine also possesses a substantial number of man-portable air defence systems like Igla and

Stinger. As a result, the Russian air force has suffered notable losses and has been [unable](#) to establish complete control over Ukrainian airspace.

From December 2022 to June 2023, the war was in a [deadlock](#) until the current Ukrainian [counteroffensive](#). Throughout this period, Russia has continuously wreaked destruction on Ukraine's anti-aircraft resources using missiles and drones, gradually [depleting](#) Kyiv's surface-to-air missiles (SAMs). Even with the arrival of Western-supplied air defence systems, [integrating](#) them with Ukraine's existing equipment will be another problem that requires a considerable amount of time. Hope has surged with the acquisition of Patriots, as they possess the capability to [neutralise](#) even advanced Russian missiles. Adding to this has been Kyiv's push for F-16 fighters.

A turning point emerged in early April when [leaked](#) information from the Pentagon suggested that the balance of power was tilting in Russia's favour. This revelation led to disagreement among the Western leaders on what should be provided for the upcoming phase. While some advocated reinforcing Ukraine's air defence with [additional](#) Patriots or another SAM system, an increasing number now deem it urgent to provide Ukraine with fighter aircraft because SAMs provided by the US and its allies [had weaknesses](#).

Countering Russian Air Power

So far, Ukraine has managed to sustain its air defence with support from the West. However, the [relentless](#) pressure from Russia persists. If Ukraine's SAMs become depleted, Russian aircraft would gain more manoeuvrability. This situation would force Kyiv to make difficult choices on the priority to be given to protection of cities, infrastructure, military bases, or troops on the front lines.

In theory, fighter jets could serve as substitutes for ground-based air defence, as they are capable of engaging enemy aircraft, drones and cruise missiles. Ukraine has been relying on its fighter jets for this purpose so far. Nevertheless, it is evident that the toll from the war is beginning to have a serious impact on Ukraine, and the need for air superiority becomes more [evident](#).

Russian aircraft are [constrained](#) and still [sustaining losses](#). Because of the threat from Ukrainian air defence systems, Russian aircraft are constrained to operating within areas controlled by Russia. These fighter jets are only able to use [long-range munitions](#) to engage targets at very long ranges, resulting in inconsistent and inaccurate performance.

To overcome this problem, the Kremlin has resorted to utilising armed drones, in particular the well-known Iranian Shahed-136, which serves a dual purpose: targeting Ukraine's SAMs and exerting economic strain on Kyiv, as shooting down these inexpensive drones can still incur [substantial](#) costs. Comparatively, the cost of employing Patriots is exorbitant, with a single missile launch amounting to around US\$4 [million](#), a cost that Ukraine incurs frequently.

Drones are effective due to their small size and ability to operate at lower altitudes, which contribute to their evasive quality against conventional radar systems. Hence, employing fighter jets by Ukraine to counter drone attacks appears to be a viable

option, particularly considering the [superiority](#) of F-16s in terms of radar capabilities and mobility.

Besides F-16s, Australia, another Western ally, has considered sending [decommissioned](#) F/A-18 Hornet fighter jets to improve Ukraine's air combat capability. [Sweden](#), if admitted fully as a NATO member, is also planning to send jet fighters.

However, Russia can still squeeze Ukraine's air defence if the Kremlin commits itself to drone and missile proliferation. Production of drones has also been enhanced with the establishment of an Iranian [drone factory](#) in Russia. These Iranian drones are helpful as the Kremlin has its own supply chain problems.

Prospects for Ukrainian Air Power

Russia, like Ukraine, possesses not only [advanced](#) air defence systems, but they are also cheaper than US models. It remains to be seen how Western jet fighters [will perform](#) against Russia's S-300 and S-400 air defence systems, although these systems have their weaknesses, as noted in the Ukrainian [drone incursions](#) into Russia, including [Moscow](#).

Kyiv must understand that this conflict is a [war of attrition](#), with a large gap between the capabilities of the two countries' air forces. And even if Ukraine were to deploy F-16s, Russia may be able to cripple them by exploiting their main weakness, which is the need for a runway. If runways are destroyed, the jet fighters cannot take off, and the entire air force will soon be paralysed. Furthermore, upgrading the Ukrainian Air Force is not a good [option](#) since the gains are significantly overshadowed by the costs, besides risking escalation.

US officials have also [privately said](#) that F-16 fighter jets would be of little help to Ukraine in its current counteroffensive and will not be a game changer when they eventually arrive given Russian air defence systems and contested skies over Ukraine.

Adding F-16s to Ukraine's arsenal will bolster its air defence, but they will not bring victory to the counteroffensive, let alone the defeat of Russia.

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