



CUXS CHRONICLE

13 FEBRUARY 2025

IMPROVISED DEFENSE

As new technologies continue to emerge on the battlefield, the fight against them increasingly requires innovation at the tactical level. The rapid development of unmanned systems, particularly drones, has posed significant challenges to traditional defense strategies. In response, improvised Counter-Unmanned Aircraft Systems (CUAS) solutions are becoming more common as military forces adapt to these evolving threats. These creative, on-the-ground approaches enable faster and more flexible responses, often utilizing available resources to effectively neutralize or disrupt enemy drone operations, reflecting the growing need for ingenuity in modern warfare.

RUSSIA | UKRAINE

Videos have surfaced of Russian soldiers building net tunnels as a defensive measure to protect their supply lines from the growing threat of small unmanned aerial systems (UAS). This tactic, though innovative, is not entirely new; netting has long been used in various forms to shield military assets, including vehicles and personnel, from aerial threats, particularly from UAS attacks. By deploying these nets over key logistical routes and supply lines, Russian forces aim to reduce the effectiveness of drone strikes, which have proven to be a versatile and formidable tool on the modern battlefield. The use of nets, a relatively low-tech solution, is a direct response to the challenges posed by the rapid proliferation of inexpensive, commercially available drones. However, countering the UAS threat requires much more than just physical barriers. A comprehensive approach is needed that combines advanced counter-drone technologies—such as jammers, directed energy weapons, and electronic warfare—with innovative tactical measures like netting. While these high-tech solutions are important, innovation at the tactical level remains essential in adapting to and defending against the evolving UAS threat. In this case, the use of nets illustrates how even low-cost, improvised strategies can complement more advanced systems to bolster defense against increasingly sophisticated and varied drone operations.



Russian soldiers erecting a 2km net tunnel over supply lines in Ukraine.



Russian drone caught in a net over a Ukrainian fighting position



GLOBAL WAR ON TERROR

The CUAS fight has often been compared to the Counter IED effort early in the Global War on Terror. U.S. troops in conflict zones, particularly in Iraq and Afghanistan, relied heavily on improvised defenses to protect themselves from the threat of IEDs (Improvised Explosive Devices), which were a primary weapon used by insurgents. In response to the constant danger posed by these devices, soldiers often adapted their vehicles and tactics on the fly. Common strategies included reinforcing vehicle undercarriages with additional armor, using sandbags and blast walls to create protective barriers. From an institutional approach, the DOD developed requirements for specialized mine-resistant vehicles like MRAPs (Mine-Resistant Ambush Protected vehicles), but while those were in development, personnel on the ground utilized creativity to provide some level of mitigation. Makeshift solutions, born out of necessity, prove crucial in saving lives and minimizing casualties in a rapidly evolving battlefield environment.



US soldier utilizing sandbags as improvised armor against IEDs.



Mine-Resistant Ambush Protected (MRAP)

ISRAEL

Israel, always at the forefront of military innovation, has been closely monitoring the ongoing conflict between Russia and Ukraine, particularly the increasing use of drones in modern warfare. Learning from the vulnerabilities exposed in Ukraine, Israel has begun installing counter-drone cages on the tops of their armored vehicles. These protective cages are designed to intercept and neutralize incoming drones, which often target the more exposed upper sections of vehicles. By adapting this strategy, Israel is enhancing the survivability of its armored units, acknowledging the growing threat posed by small unmanned aerial systems and further solidifying its commitment to developing effective, real-time countermeasures.



Israeli tank with a protective cage installed above the turret.

CONCLUSION

The rise of improvised Counter-Unmanned Aircraft Systems (CUAS) solutions highlights the importance of creativity and adaptability in modern warfare. By employing quick, on-the-ground tactics that make use of available resources, military forces can rapidly respond to the ever-evolving drone threat. These innovative approaches not only disrupt enemy drone operations but also provide a level of flexibility that advanced technology alone cannot always offer. As drone capabilities continue to advance, the need for ingenuity in CUAS strategies will only grow, underscoring the critical role of tactical innovation in defending against modern threats.



Nets protect Ukrainian Artillery positions against small UAS.

Please note that all values and data presented in this article are approximate and have been sourced from a variety of external references. While every effort has been made to ensure accuracy, the information provided may not be fully comprehensive or up-to-date. Readers are encouraged to verify details from authoritative sources.