# The Evolving Role of Drones in Modern Warfare



### The Impact and Future of Drones in Modern Warfare

During the Eurosatory defense exhibition on June 19, Gen. Pierre Schill, Chief of Staff of the French Army, expressed that the advantage held by small aerial drones in Ukraine's battlefields is temporary. He emphasized that advancing science and tactics will soon counteract current drone superiority. Stuart Crawford, a former British army officer and defense analyst, supports this view, attributing drones' initial success to filling a "threat vacuum" in the Russo-Ukrainian War. Both believe that countermeasures will eventually neutralize drones' advantages.

Unmanned Aerial Vehicles (UAVs) have notably changed the face of warfare, especially in Ukraine. These drones, particularly first-person-view kamikaze types, can accurately strike mobile targets, posing a significant threat to tanks and armored vehicles. While drones enhance artillery precision and compensate for Ukraine's artillery deficit against Russian forces, they cannot entirely replace traditional artillery systems like howitzers and rocket launchers.

The Turkish-built Bayraktar TB2 UAV gained prominence early in the Ukraine war as both an attack and surveillance platform, perceived as resilient to most air defense measures. However, advanced Russian surface-to-air missiles eventually diminished its battlefield presence, demonstrating the evolving counter-drone capabilities.

Efforts to counter drones include attacking their manufacturing and supply chains, identifying and striking launch sites, and deploying electronic countermeasures. Techniques such as radio frequency jammers, GPS spoofers, and cyber takeover systems are being increasingly utilized to disrupt or neutralize drones. Companies like Diehl Defense and Raytheon are developing advanced systems like high-power electromagnetic pulses and high-energy lasers to physically destroy drones.

Both Ukraine and Russia have adapted their strategies to include these counter-drone technologies, which are continuously being tested and improved, reflecting an ongoing technological arms race. The U.S. military's Joint Counter-small Unmanned Aircraft Systems Office has prioritized research and development in this field with substantial budget allocations.

A notable visual exemplification of these countermeasures was a viral video showing a Ukrainian drone equipped with a stick downing a Russian drone. This event, while highlighting innovative low-tech responses, underscores the critical role drones play in the Russia-Ukraine conflict. Ukraine has even established the Unmanned Systems Forces, led by Colonel Vadym Sukharevskyi, to enhance its drone warfare capabilities, reflecting the strategic importance of UAVs in modern combat.

In conclusion, while UAVs have revolutionized warfare, ongoing advancements in anti-drone technology suggest a dynamic and rapidly evolving battlefield where maintaining an edge requires constant innovation.