The Invisible Weapon That Downs Drones: Radio Waves Against Swarms

Published on 17/04/2025

In the silence of the Air Defence Range in Manorbier, southwestern Wales, a silent but powerful revolution took place. For the first time, the British Army successfully conducted an operational test of a radio wave weapon capable of downing entire swarms of drones. This is the **Radiofrequency Directed Energy Weapon** (RF DEW), a system that emits high-frequency radio waves capable of neutralizing the electronic components of drones, causing them to fall immediately or malfunction.

The event, announced by the British Ministry of Defence on April 17, 2025, marks a significant milestone for national security and defense against one of the most concerning emerging threats: the massive use of drones in warfare and sensitive civilian contexts. With an estimated cost of just **10 pence per shot**, this technology represents a cost-effective alternative to traditional anti-aircraft missiles, which are often too expensive to counter rapid and numerous threats like swarms.

The RF DEW system has demonstrated the ability to neutralize **multiple targets simultaneously** with almost instantaneous effectiveness, striking at a distance of up to one kilometer. During the tests, over **100 drones were downed**, and in a single engagement, two swarms were neutralized. The operator who led the experiment, Sergeant Mayers of the 106th Regiment Royal Artillery, was the first British soldier to successfully use this new type of weapon. “The system is intuitive, easy to learn, and quick to deploy. With further developments in range and power, it could become a key element in layered defense,” he stated.

The Invisible Weapon That Downs Drones: Radio Waves Against Swarms - brigatafolgore.net

A Concrete Response to a Growing Threat

The development and testing of this technology come at a crucial time for global security. The war in Ukraine has shown how drones—often cheap, easily accessible, and capable of acting in swarms—can cause devastating damage. According to British intelligence, in 2024 Ukraine had to defend itself against over **18,000 drone attacks**. In this context, systems like the RF DEW emerge as indispensable responses.

Unlike classic electronic countermeasures, which rely on jamming and can be easily bypassed by more advanced or autonomous drones, the RF DEW *physically strikes* the circuits of the targets, rendering them unusable. This feature makes it particularly suitable for defending **sensitive areas such as military bases, critical infrastructure, or airports**, which in recent years have been repeatedly closed or slowed down due to the presence of unidentified drones.

The strategic scope of this technology is also evident in the attention the British government has given it. To date, over **40 million pounds** have been invested in the development of the RF DEW, a figure set to grow. The Ministry of Defence has announced that, starting from 2025-26, at least **10% of equipment spending will be allocated to innovative technologies**, in line with the goal of reaching 2.5% of GDP allocated to defense by 2027.

The Minister for Defence Procurement, **Maria Eagle**, emphasized how the initiative reflects “the strength of British innovation, supported by a dynamic industrial sector and national scientific talent.” The Manorbier testing represents not only a technical success but also a symbol of the UK's new industrial course: a combination of security and economic growth.

The Invisible Weapon That Downs Drones: Radio Waves Against Swarms - brigatafolgore.net

Thales UK and the National Industry at the Forefront

The project is the result of a collaboration between the Ministry of Defence, the **Defence Science and Technology Laboratory**, and the company **Thales UK**, leading the industrial consortium that developed the RF DEW demonstrator. The program, known as **Team Hersa**, currently employs about **135 highly qualified professionals** across Great Britain: 100 engineers and technicians in Northern Ireland and another 30-35 in the supply chain sector in Chelmsford, Essex.

Nigel MacVean, General Manager of Thales Integrated Air Protection Systems, commented: “We continue to lead this pioneering technology, proud to contribute our know-how to national security, in close collaboration with the British government.”

The success of the RF DEW system is set to influence the choices of other NATO countries, increasingly interested in acquiring directed energy technologies to defend against drone swarms and asymmetric threats. The British invisible weapon, silent and precise, represents the first concrete step towards a **future where energy will be a protagonist on the battlefield** , reducing costs and increasing responsiveness.

With this first operational success, the United Kingdom positions itself to become one of the world leaders in the field of radio wave weapons, opening a new era in **anti-drone defense** and marking a significant evolution in 21st-century electronic warfare.

News link: https://www.gov.uk/government/news/british-soldiers-take-down-drone-swarm-in-groundbreaking-use-of-radio-wave-weapon