The AI that Sees War: Clarity and the New Ukrainian Reconnaissance

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In the conflict between Ukraine and Russia, the real currency is **time**. Whoever manages to transform an image into a decision first gains a concrete advantage on the battlefield. In this context, **Clarity** comes into play, a Ukrainian software based on artificial intelligence capable of automatically analyzing photos and videos from reconnaissance drones, recognizing **soldiers, artillery vehicles, and enemy positions**.

The qualitative leap concerns not only the precision of recognition but especially the **speed**. Activities that until recently required hours of manual analysis are now reduced to **a few seconds**. Images of forests, occupied villages, and rural areas are processed by the algorithm, which tags targets and returns **geographical coordinates** directly to units engaged at the front or command centers.

This process drastically accelerates the so-called **kill chain**: target identification, assessment, decision, and engagement become an almost continuous flow. It's not just about striking more

effectively, but also about **avoiding ambushes, reducing errors, and increasing the survival of advanced units**. Clarity uses proprietary models trained on large volumes of visual data, annotated by specialists with a deep understanding of the operational scenario. Behind the software is a team that combines advanced artificial intelligence skills and military experience, allowing the system to function even in difficult environmental conditions.

A Digital Ecosystem at the Service of the Front

Clarity is not an isolated element. Over time, Ukraine has built a **digital combat ecosystem**, composed of platforms for command and control, terrain mapping, and fire support. Among these are Delta, Kropyva, and Virazh Planshet, tools that integrate data from different sensors, ballistic calculations, weather information, and minefield maps.

A diagram describing the functioning of the Kropyva platform.

Within this system, Clarity plays a specific role: **making aerial reconnaissance more efficient**. It is a desktop application used both in the field and at headquarters, with over **six hundred military users** and dozens of operational units using it daily. There is also an advanced version, Clarity Pro, capable of processing offline videos, importing flight logs with coordinates, and performing **automated geolocation**.

A central aspect of its development is the **continuous feedback cycle** with soldiers. Observations from the front are collected through secure communication channels, allowing developers to fix bugs, add features, and adapt algorithms to the enemy's evolving tactics. This constant dialogue transforms the direct experience of combatants into rapid and targeted

software improvements.

The project is part of a government cluster created to connect technology companies and armed forces, promoted by the Ministry of Digital Transformation. Through grants and thematic hackathons, this ecosystem accelerates the transition from ideas to working prototypes. In this framework, Clarity has become one of the most concrete examples of **innovation applied directly to the battlefield**.

A War that Accelerates Military Innovation

The integration of artificial intelligence in Ukrainian operations is not limited to reconnaissance. In recent months, solutions have emerged that bring AI into the **terminal guidance of attack drones**, allowing devices to maintain the target even in the presence of electronic disturbances. It is a significant evolution because it reduces dependence on continuous human control and makes systems more resilient in environments saturated with jamming.

Drones with attached bombs. Photo: Anton Petrus/GETTY IMAGES

Parallelly, the international debate on the **limits of autonomy in weapon systems** is growing. Discussions on autonomous weapons proceed slowly, while on the ground, technology advances at a sustained pace. In Europe, many military applications remain formally outside the main regulatory frameworks on artificial intelligence, especially when the use is exclusively related to national defense. However, the issue of **dual use** remains open, as many of the technologies employed – artificial vision, video analysis, geolocation – originate in the civilian

sector.

For Ukrainian officials, the point is pragmatic: AI allows for obtaining **in minutes what previously took hours**. The operational return is enormous and translates into greater effectiveness, fewer losses, and the ability to strike adversary strategic assets with limited resources. Clarity embodies this transformation. It does not promise automatic wars or easy victories, but it demonstrates how software has become a **silent fighter**, capable of seeing first, understanding better, and accelerating every decision.

In a war that changes month by month, artificial intelligence is no longer an experiment: **it is already an integral part of the battlefield**.

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