Helsing between Innovation and Responsibility: HX-2 Drones and the Future of European Defense

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The German company Helsing, specialized in the development of defense technologies based on Artificial Intelligence, has announced the production of 6,000 new HX-2 attack drones destined for Ukraine. This significant order adds to the previous one of 4,000 HF-1, consolidating Helsing's role as one of the world's leading military drone manufacturers.

The HX-2 represents a new generation of autonomously guided munitions. With a range of up to 100 kilometers and a payload capacity of up to five kilograms of explosives, the drone is designed to withstand enemy electronic interference. The technological core of the system consists of advanced artificial intelligence that, thanks to pre-loaded maps and integrated sensors, allows the drone to operate even in environments with a total absence of satellite connectivity.

Niklas Köhler, co-founder of Helsing, explained in an interview that the HX-2 can literally “fly inside a room and hit a target with precision even in case of signal blackout.” The drones can operate in swarms, with hundreds of units coordinated by a single operator via a simple military laptop, making them particularly effective for creating defensive barriers or conducting large-scale coordinated actions.

According to Gundbert Scherf, co-CEO of Helsing, “NATO urgently needs technological solutions capable of protecting borders and ensuring the territorial integrity of its member states.” The HX-2 was born precisely with this mission: to ensure comprehensive, adaptable, and resilient defense.

The Resilience Factories – a New Production Paradigm for European Defense

Alongside the announcement of the new drones, Helsing inaugurated its first Resilience Factory (RF-1) in southern Germany. It is a high-efficiency plant, designed to produce over 1,000 HX-2 drones per month, with the possibility of expansion in case of conflict escalation.

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These factories represent an innovative model for European military production: distributed across the territory and oriented towards technological sovereignty, they allow states to locally produce advanced defense systems, reducing dependence on non-European suppliers. Helsing plans to build additional Resilience Factories in various countries across the continent, with the aim of creating an integrated and self-sufficient network.

Niklas Köhler emphasizes how the core of Helsing's production strategy is the combination of software design and scalable production techniques. Instead of complicating the hardware, problems are solved at the algorithmic level: this approach allows for more reliable, more economical systems that are especially easier to replicate on a large scale.

The goal, as Scherf states, is to “ensure the sovereignty of production and the supply chain.” The ability to produce thousands of units quickly and in a distributed manner represents a

strategic advantage essential for Europe in the current geopolitical context.

Between Defense and Risk – The Ethical Challenges of Military Autonomy

The HX-2 represents a significant technological advancement, but it also raises relevant ethical and strategic questions. The system is designed to operate autonomously in hostile environments, thanks to the artificial intelligence's ability to identify targets and suggest priorities. However, Helsing has clarified that the final attack decision always remains in the hands of a human operator, similar to modern car navigation systems that provide suggestions but do not impose the route.

Despite this, the debate has ignited over the possible offensive use of these systems. On one hand, the HX-2 drones can be employed to protect borders, prevent incursions, and defend critical infrastructures; on the other, their effectiveness and autonomy could push some actors to use them for offensive actions, including preemptive operations on enemy territory.

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The increasing autonomous decision-making capability of drones, especially in conditions where communication with the operator is interrupted, inevitably leads to a reflection on who – or what – truly holds control in complex combat scenarios. The possibility that machines autonomously decide targets to hit, even if only in the preselection phase, opens a critical front on moral and legal implications.

An additional concern regards the arms race that the large-scale production of advanced drones could trigger. Other countries, seeing the effectiveness of the HX-2, might be incentivized to develop similar technologies, increasing the risk of military escalation and international destabilization.

Faced with these challenges, it seems essential that Europe adopts clear and rigorous regulations on the use of armed drones and artificial intelligence in the military sector. A balance is needed between security and human rights, between innovation and responsibility, so that emerging technologies serve to protect – and not threaten – democratic values.

Helsing's HX-2 drones embody the new frontier of European defense: intelligent, resilient, locally produced. But this very power requires deep reflection. Europe has the opportunity to lead not only on the technological front but also on the ethical and legal one. The future of security passes through conscious, transparent, and shared choices.

News link: https://helsing.ai/newsroom/helsing-to-produce-6000-additional-strike-drones-for-ukraine