The US Army: additive manufacturing between 3D printing, digital autonomy, and patent wars

Published on 30/10/2025

“Don't be surprised if we start producing our own parts,” declared Lieutenant General **Christopher Mohan**, deputy commander of the Army Materiel Command. “I recognize that intellectual property belongs to the industry, but it's our fault for not purchasing it initially: an amateur mistake.”

The issue is indeed technological and contractual. Most weapon systems — from tanks to Black Hawks — incorporate third-party components for which the Pentagon does not possess the **technical data**. In case of failure or supply crisis, relying on these manufacturers can halt entire fleets. “We can't live like this,” Mohan added, “we need a model where we purchase only the rights for the part we need to print, not for the entire system.”

The US Army accelerates on additive manufacturing: between 3D printing, digital autonomy, and patent wars

Simultaneously, the Army is experimenting with real **“3D printing sprints”**, aiming to produce 60 parts in 60 days. Already today, thanks to a **containerized digital repository**, soldiers can connect via tactical network, download approved CAD files, and **print spare parts directly in the field**, such as ventilation grilles or hatch handles.

This push finds its convergence point with the field experiences of the **25th Infantry Division** in Hawaii. In 2025, the “Lightning Labs” team developed and built in-house the FPV drone “Capstone”, integrating a detonation system created with EOD specialists. The result? An autonomous, cost-effective, and immediately operational system — capable, as Captain David Velasquez emphasized, of “putting lethal effects on the target, immediately.”

Towards a distributed industry

The two experiences — industrial and tactical — converge in the same direction: the **digital autonomy** of the armed force. General **Dan Driscoll**, Secretary of the Army, showcased at AUSA 2025 the result of this strategy: an external fin for a Black Hawk tank printed in 43 days, **300% stronger and 78% cheaper** than the commercial version.

The challenge now is to manage a hybrid industrial ecosystem, where **intellectual property** coexists with operational necessity. For the industry, this means rethinking contracts in terms of **“partial production rights”**; for technology, it means strengthening the **cybersecurity of print files**, ensuring **digital mechanical validations**, and implementing **certified blockchain systems** to track every single printed component.

Conclusion

Military additive manufacturing is no longer a laboratory but a strategic infrastructure. With 3D printing, the US Army aims for decentralized, resilient, and technologically “sovereign” logistics. The future of procurement will no longer be a linear chain, but a network: distributed, intelligent, and increasingly autonomous.

News link: https://breakingdefense.com/2025/10/armys-new-3d-printed-fpv-drone-can-put-lethal-effects-on-target-right-now/