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EXPORT OF UNMANNED TECHNOLOGY ECOSYSTEMS OF UKRAINE AS A FACTOR OF STABILITY IN THE PERIOD OF INTEGRATED SINGULARITY

This article addresses the issue of creating a systemic export revenue model through the commercialization of defense-related products and services, particularly unmanned systems for land, maritime, and aerial applications. The analysis is based on the Ukrainian unmanned ecosystem that emerged during 2022–2025 under conditions of the most intensive drone confrontation in modern military history. Combat verification, rather than conventional testing under controlled conditions, constitutes the key competitive advantage that cannot be replicated by any other manufacturer. The study demonstrates that the real value of the Ukrainian MilTech sector lies not in the number of produced unmanned systems, but in the integrated complex of operational knowledge, deployment tactics, logistics solutions, command-and-control software, and resilient communication systems capable of functioning under electronic warfare conditions. This integrated complex is proposed to be defined as the ecosystem of unmanned technologies. The analysis is conducted within the framework of the concept of integrated singularity and the projected resonance convergence of technological, demographic, and resource singularities expected during 2040–2045. This context is not merely theoretical background. As the point of critical convergence approaches, global demand for asymmetric and combat-verified security solutions is expected to increase. The study estimates that ecosystem-based exports of unmanned technologies could generate USD 15–20 billion annually by 2035, covering approximately 30–40% of Ukraine's defense budget. A stabilization model is proposed that transforms wartime investments into a long-term competitive position within the post-singularity economy.

Keywords: unmanned ecosystem, ecosystem export, integrated singularity, turnkey defense, MilTech, military-industrial cooperation, technological sovereignty, Ukraine.