

AV_Halo™ INSTINCT

SWARM CONTROL & TEAMING SOFTWARE
FOR AUTONOMY THAT ENDURES



INSTINCT is a next-generation autonomy software framework engineered to empower military forces with superior multi-platform Uncrewed System (UxS) command and control (C2). Designed with rigorous input from operational experts, INSTINCT delivers distributed, collaborative mission execution for new and legacy platforms across Intelligence, Surveillance, and Reconnaissance (ISR), loitering, Counter Uncrewed Aircraft System (CUAS) and precision strike profiles with C2 integration.

_ Scalable Capabilities

INSTINCT software seamlessly aligns autonomous decisions with operator mission intent. Real-time ISR data, visual processing, and C2 integration enhance threat perception and enable immediate autonomous response, supporting diverse ISR, loiter, strike, and CUAS mission profiles.

Deployment & Fielding

- › Rapid Tactical Development: Using INSTINCT Software Development Kits and Modular Open Systems Approach-compatible deployment, AV's AVACORE and HaloSwarm software products allow fast implementation and fielding of new autonomous capabilities, accelerating adaptation to evolving threats.
- › Scalable Resilience: INSTINCT Solutions enable decentralized autonomy, allowing massed swarming and collaborative behaviors that enhance survivability, mission success, and operational flexibility across contested domains.

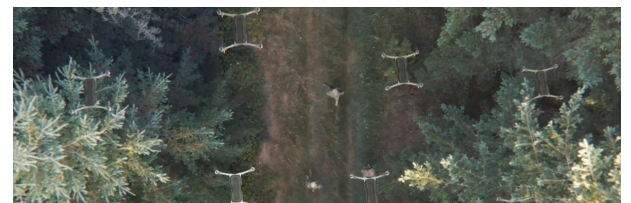


_ AVACORE™

- › Modular software stack enables dynamic autonomous behaviors via runtime-loaded behavior trees.
- › Plug-ins support custom waypoint planning, target detection, and scalable team missions for diverse unmanned platforms.
- › Integrates with autopilots, radios, sensors, emitters, and payloads to deliver collaborative autonomy (e.g., multi-agent survey, overwatch).
- › Supports complex edge autonomy and persistent missions, even in GPS- or comms-denied environments.

_ Benefits

- › Reduces cognitive load by automating complex decisions, allowing operators to focus on mission supervision and fast decision-making.
- › Natural language tasking via large language model (LLM) lets commanders issue verbal/text orders to autonomous teams, reducing training and speeding operations.
- › Enables multi-level training and simulation, rapidly developing and evaluating CUxS Tactics, Technique, and Procedure (TTP) with modular, collaborative autonomy integration from AVACORE and HaloSwarm.
- › MOSA-compliant architecture supports deployment on Size, Weight, Power, and Cost (SWaP-C)-conscious platforms and edge environments for robust field use.
- › Proven in Project Convergence, SOCOM, APEX 25, and USMC WTI exercises, demonstrating reliable performance in contested domains.



_ HaloSwarm™

- › Advanced swarm logic with AI/ML and proprietary communications boosts multi-mission, resilient, real-time operations.
- › Swarm elements self-organize, sustaining effectiveness even with platform losses or degraded communications, maximizing force resilience.
- › Modular payload mounts and vehicle options (E900, E1250, IE-V3) deliver extended endurance and rapid deployment.
- › U.S.-manufactured, Army-certified platforms approved under DIU Blue UAS 2.0 for secure, robust field use.

