Apiary Systems - Executive Summary

TRL 4

Apiary Systems, LLC is creating a swarm intelligence and autonomy software suite for unmanned aerial vehicles (UAV). This software suite allows simple, individual drones to work together in large groups to accomplish complex mission statements in a survivable and flexible manner. Apiary Systems' focus is geospatial information collection and counter-weapons capabilities for base protection and integration of small unmanned aircraft systems (sUAS) into the kill web.

Apiary's approach to swarm intelligence is different to the current industry approach. We prioritize distributed intelligence development, which is largely hardware agnostic.

Our software enables any existing or future UAV to self-navigate in GNSS denied environments and provides resistance to electronic warfare. Further development includes multi-modal swarm intelligence and risk management of directed energy weapon threats.

Apiary Systems is based in Columbus, Ohio, and was established in April 2024. Apiary Systems has raised over $50k in pre-seed funding to date.

Performance

May 24': Victors of The Ohio State University's Presidents Buckeye Accelerator, the University's premier pitching competition. $50k grant and mentorship.

June 24': Acceptance into the National Security Innovation Network's Vector accelerator program.

Team

Daniel Tcheurekdjian, studying mathematics, physics, and comparative studies at The Ohio State University, is a researcher in neural networks and advanced mathematics with previous appointments at MIT, Case Western Reserve University, and now The Ohio State University. Daniel is a member of OSU's Department of Mathematics advisory board where he directs the Research Committee and is a United Nations Millenium Fellow.

Tom Cooney, studying Aerospace Engineering and Computer Science at The Ohio State University, has previous work designing and building ballistic recovery systems for presentation to NASA.

Tyler Fenstermaker, studying Mechanical Engineering and Robotics/Autonomy at The Ohio State University, is a researcher at OSU's Unmanned Aerial Vehicle laboratory.

Ritvik Rao, studying Mechanical Engineering and Computer Science at The Ohio State University, has experience researching battery performance and mechanical analysis.

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