



JIFX
Joint Interagency Field Experimentation



NPS Joint Interagency Field Experimentation 24-1

Dates: 23-27 October 2023

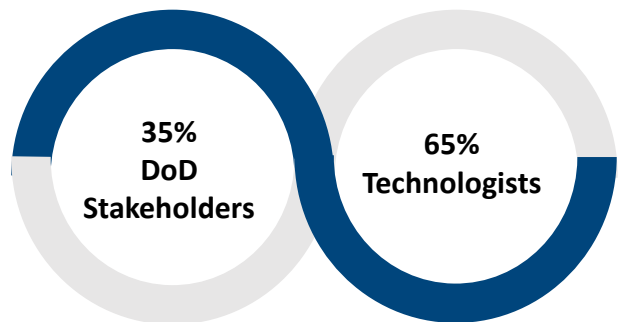
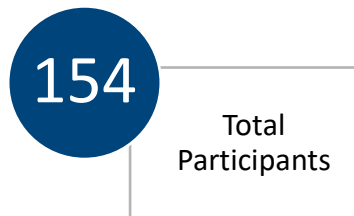
Focus Area: Operations at the Edge

Location: McMillian Airfield at Camp Roberts, California Army National Guard

The NPS JIFX team hosted JIFX 24-1 in support of OUSD R&E’s Innovation & Modernization (I&M) Office. This innovation discovery event saw twenty-one small business and non-traditional performers exploring twenty-four unique capabilities related to operations in environments on the periphery or outskirts of conventional operational areas – also known as “operations at the edge.”

Our fifty-six government stakeholders represented all four military services, three COCOMs, two Naval Surface Warfare Center divisions, FLEETWERX, NavalIX, the Civil Military Innovation Institute, and seven institutional or operational commands. Five technologists implemented new concepts of employment for their capabilities, two firms conducted unique flight profiles with their UAS platforms, and NPS students employed low earth orbit satellites to control an uncrewed surface vessel located 1600 miles from McMillan Airfield.

All in all, a great start to Fiscal Year 2024. JIFX 24-2 is scheduled for 5-9 February 2024. Get the word out technology proposals are due in November.



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JIFX 24-1 Experiments

	Experiment Title	Organization
A-03	Test Flight of CTOL and VTOL Demonstrators	Odys Aviation
A-09	GPS-Denied Navigation & Autonomy: Vision Based Navigation Systems	Rroman Aerospace
B-01	INVICTUS_CANIS	QuantumShield
B-03	Autonomy Components for Unmanned Ground Vehicles	Bluespace.ai
B-04	Modular UAS with Mesh Networking and Satcom Integration	Firestorm Labs
B-05	Leveraging Space Communication Architecture for Maritime ASV Experimentation	Naval Postgraduate School & Saronic Technologies
D-01	CLOSE_ENOUGH	QuantumShield
D-02	AI/ML to Optimize Network Performance in Austere Environments	Sabre Systems Inc
D-03	Advanced Communication Integration; Mesh Networking; Low Bandwidth Data Transmission; Energy Efficiency; Cybersecurity and Encryption	Somewear Labs
D-04	Low Power Surface-Air WAN and 5G Tactical Nodes for M-RXR Operations	Naval Postgraduate School
E-02	Portable Cybersecurity & Encryption At-the-Edge	SecureData
E-03	THOR	Aronetics

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	Experiment Title	Organization
E-04	Encrypted Secure Data-sharing in Contested/Compromised Environments	Cyphlens
F-01	LEVER_GUARD	QuantumShield
F-02	Multi-Domain Expeditionary Artificial Intelligence and Behavior Analysis at-the-edge for Tactical Surveillance Application	Gantz-Mountain Intelligence Automation Systems, Inc.
G-01	DINERS_CLUB	QuantumShield
G-02	Generative AI-Powered AI Agents	Pytho AI
G-03	Shipcom AI Expeditionary Advanced Base Operations to Improve Logistics in a Contested Environment	Shipcom Federal Solutions LLC
G-04	Drone Droppable Robots for Situational Awareness	Squishy Robotics
G-08	modelspace LIVE: a digital platform for military operations	modelspace incorporated
J-01	Helios, a tactical C2 and ISR node	Picogrid
K-04	Expeditionary Wind Energy Field Experimentation	AirLoom Energy Inc.
L-01	Battery Deactivation / Render Safe	OnTo Technology LLC
L-02	Heat Pump Containers for Temperature Sensitive Goods	Artyc PBC

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Firestorm's turbo-jet UAV lifts off on a fully autonomous mission.



NPS' LCDR Hans Lauzen (left) explains his LEO enabled USV C2 experiment to Terry Stein (center) from USD R&E.

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Quantum Shield’s Sam Lavery distributed sensors throughout the CATF in one experiment that led to discovering a new key exchange protocol.



Team AirLoom stands by their horizontal wind turbine after completing construction in their first experiment to prove the system’s viability for expeditionary applications.



Odys Aviation’s Casper subscale research aircraft transitions from vertical takeoff to horizontal flight.



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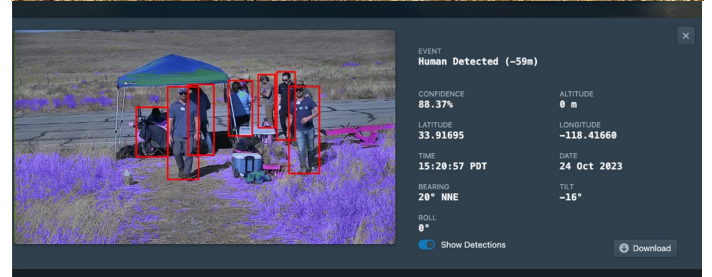
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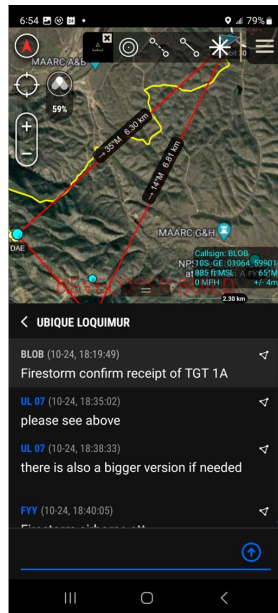
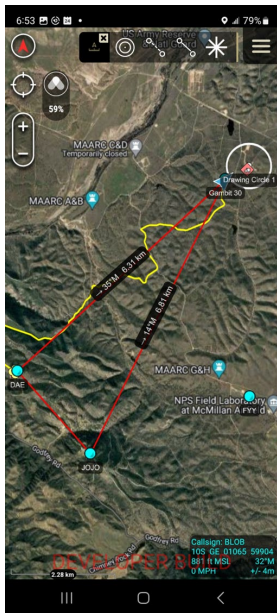
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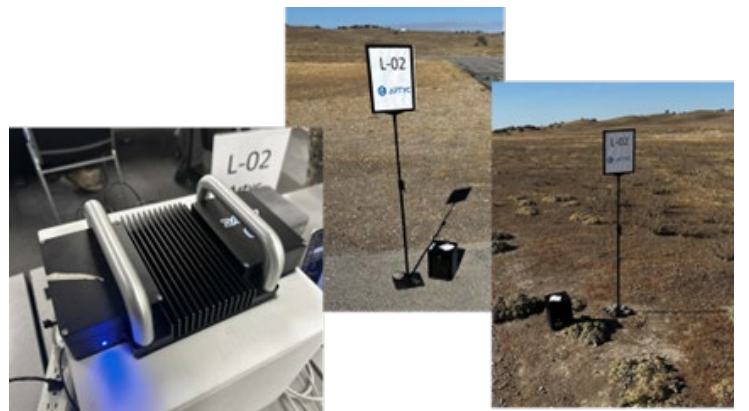
MAJ Walter Snook, NPS DA, and MSG Scott Moore, USASOC, examine Squishy Robotics' air drop capable sensor system.



Picogrid's Helios tactical C2 and ISR package was effective in all terrain - stationary or on the move.



Somewear Labs' communications integration kit allowed rapid collaboration with ISR platforms.



Artyc PBC heat pump containers kept their contents cool for three consecutive days with little drain on their batteries.

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