



**JIFX**  
Joint Interagency Field Experimentation



## NPS Joint Interagency Field Experimentation 20-2 Update

### Director's Note

Even the coronavirus and light rain could not dampen the enthusiasm of the participants at this JIFX event! Although the event featured more elbow bumps than handshakes and saw a considerable increase in the use of hand sanitizer, it retained the enthusiastic collaborative vibe that has come to be associated with these events. Participants that navigated the delays and cancellations in the air traffic system spent the week demonstrating increasingly capable technologies in field conditions on, over and under the ground on the Camp Roberts Maneuver Training Facility.

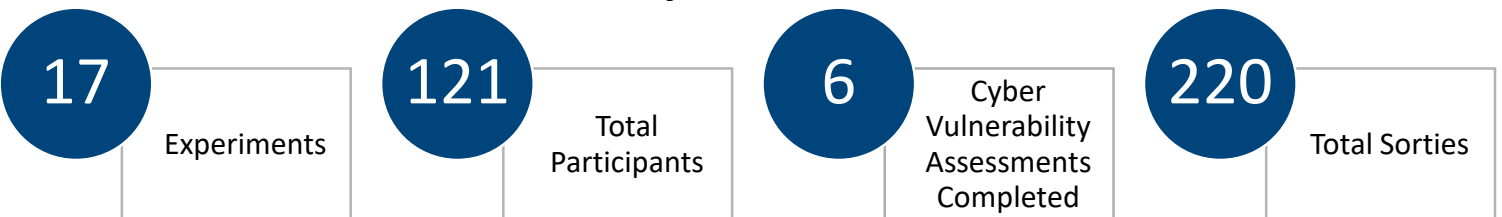
Earning the "J" in JIFX, industry experimenters worked alongside government teams from the U.S. Army Combat Capabilities Development Command ([www.army.mil/ccdc#org-about](http://www.army.mil/ccdc#org-about)) and the U.S. Air Force Research Laboratory (<https://www.wpafb.af.mil/afrl/>) as well as the Naval Postgraduate School team.

In addition to observers from all of the services and three combatant commands, delegations from the Office of Navy Research (ONR) and the U.S. Marine Corps University's Brute Krulak Center for Innovation and Creativity visited the event and observed nearly all of the experiments. Mr. Gregg Brinegar, the Assistant Vice Chair of Naval Research, led the ONR delegation.

One highlight of the week was the high degree of network integration achieved across the event. The AFRL's COPERs system was put to the test with the highest variety and volume of data yet seen at a JIFX event. The event also featured good use of social media (follow @JIFX and see page 4 of this quicklook) as well as robust traditional F2F information sharing.

The JIFX 20-3 event will be held May 18<sup>th</sup> to the 22<sup>nd</sup> – get those proposals in soon!

### JIFX by the Numbers



[www.nps.edu/fx](http://www.nps.edu/fx)

@jifx

@thejifx

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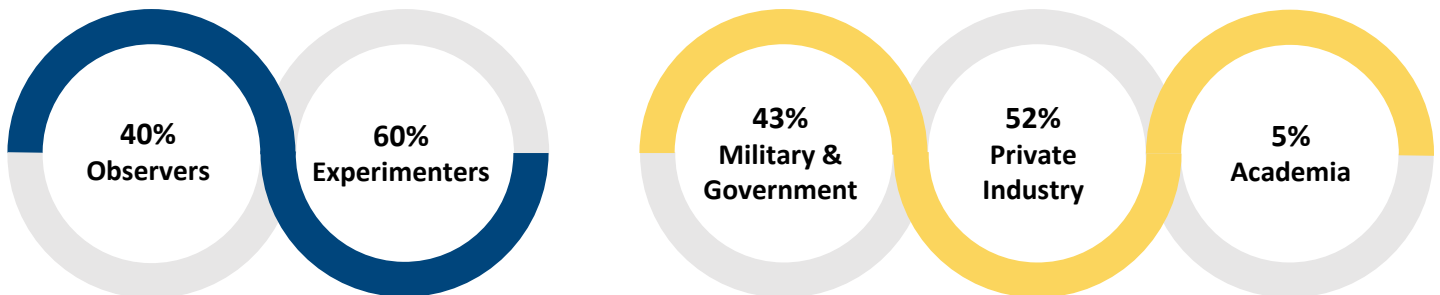
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<p><b>Unmanned Aerial Systems</b></p>	<p><b>Flight Stability and Usefulness of Small Fully Ducted Quad-Rotor UAV</b>, xCraft Enterprises  <b>Autonomous ISR VTOL UAV</b>, Skydio  <b>PNT Platform for GPS-Denied Environments</b>, ModalAI Inc.  <b>Real-time Battlefield Mapping</b>, Engine8 &amp; DZYNE Technologies  <b>Nova Autonomous Quadcopter Exploration</b>, Shield AI  <b>Electronic Warfare and RF Heat Map</b>, Virtual Reality Rehab  <b>UAV as a Long Endurance ISR Platform</b>, Greensight</p>
<p><b>Unmanned Systems Design, Deployment, Operation, Networking and Control</b></p>	<p><b>Advanced Common Control Station Testing of Multi-UxS</b>, Autonodyne  <b>Unmanned Cave/Tunnel Truck</b>, Lumenier  <b>Gesture Based Autonomy</b>, Pison Technology  <b>Drone Control with Fused Augmented Realities</b>, Virtual Reality Rehab  <b>Ground Forces Mixed Realities</b>, Virtual Reality Rehab</p>
<p><b>Communication and Networking</b></p>	<p><b>Location Tracking and Communication Technology</b>, Dejero, MSFT &amp; Overwatch Aero  <b>Prowl</b>, Camgian  <b>ProwlCAM</b>, Camgian</p>
<p><b>Situational Awareness</b></p>	<p><b>COPERS – Integrated Common Operating Picture</b>, US Air Force Research Laboratory</p>
<p><b>Precision Strike, Non-Lethal Weapons, Information Ops</b></p>	<p><b>Sensored Soldier</b>, Combat Capabilities Development Command – Soldier Center</p>

### Attendee Information



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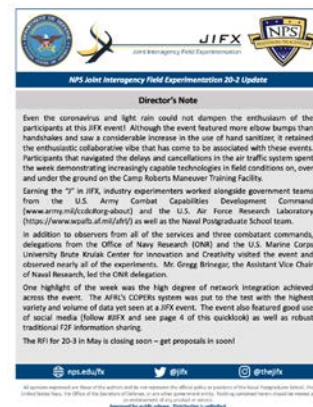
### Integrated Experiment

On Thursday of each JIFX week, participants shift their focus from experimentation with their own technology to integrating multiple technologies, a critical aspect of employing emerging technology in military and government contexts. During JIFX 20-2, NPS collaborated with Camp Roberts Fire Department to explore integration of the JIFX 20-2 technologies in support of wildfire fighting. Participants identified four primary tasks: Wide-area surveillance to quickly spot fires; close aerial inspection of the fire line; asset tracking; and incident command operations. The **Dzyne/Engine8** and **Overwatch/Dejero/Microsoft** teams provided wide-area surveillance with fixed-wing UAS from 2,500 and 5,000ft respectively, looking first with EO/IR sensors that fed video and location information into the experimentation network. **Greensight** and the **CCDC** team used multi-rotor UAS for closer inspection of the fires. To conduct asset tracking, the **CCDC** team also outfitted personnel with biometric trackers to monitor firefighter well-being; the **AFRL** team provided location trackers to several teams that beamed location; **Camgian** installed ground-tracking radars to monitor vehicle traffic in the area; and **Aries Defense** emplaced their radar/camera system on the runway to monitor aircraft departures and landings. All these systems were able to provide information to the incident command, which was located in the JIFX Technical Operation Center. **AFRL** provided the main operational display using COPERS, while camera and radar feeds were allocated to additional displays.



The McMillan Field Laboratory Technical Operations Center served as the Command Center during the integrated experiment.

Get the Quicklook in the .mil  
<https://go.usa.gov/xdAne>



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### Social Media during the Event

**Overwatch Aero, LLC**  
@Jeff77030786

Successfully mapped 10k acres in less than 1hr. #jifx #owaero #Calfire #flamemapper



**GreenSight**  
@GreenSightAg

We are back at @jifx this week flying our Dreamer aircraft equipped with tablet control from Autonodyne and a gimbaled camera payload. Turns out lots of people want a lightweight drone that flies for over 60 minutes! Want one?



**ModalAI**  
@modal\_ai

Subterranean tunnel mapping and GPS-denied flight at #jifx with #drones #robots @jifx #ai using our VOXL platform



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