



U.S. Army xTech Program Exhibitor Demo Schedule Booth 100, Hall A/B

The Army xTech Program, led by the (ASA)(ALT)), manages the Army's prize competitions to award and accelerate transformative technology solutions that can help solve Army problems. The xTech Program booth will showcase the 20 finalists from the xTechSearch 7 competition, where they will exhibit and demonstrate their technology concepts and capabilities addressing various topics.

To learn more about the xTech Program, visit our website at <https://www.xtech.army.mil/>.

Monday, June 19, 2023

1:00-1:15 PM



Anello Photonics

Warfighter Handheld Optical Gyro GNSS INS for Contested Environments

The ANELLO SiPhOG (Silicon Photonics Optical Gyroscope) is a low noise and low-drift optical gyroscope smart sensor. The Fiber Optic Gyro (FOR) on a chip coupled with the data fusion algorithm provides a navigation solution in GNSS Contested Environments.

POC: Kenneth Morrison, ken.morrison@anellophotonics.com

1:30-1:45 PM



Arbor Batteries, LLC

Li-ion Batteries with Improved Charge Rate, Energy Density, and Safety, using 3D Structured Electrodes

Arbor Batteries has developed a patent-pending manufacturing technique for Li-ion batteries that enables 10 min fast charging (a >80% decrease in charge times), increased energy density (up to 300 Wh/kg, a 20% increase), and improved battery safety, without increasing battery costs.

POC: Andrew Davis, andrew@arborbatteries.com

2:00-2:15 PM



Axiom Technologies

Edge to Endpoint Security with Axiom's NullTrust-Edge/Endpoint (NTT-E2P)

NullTrust Technologies (NTT) integrates into existing IT infrastructure to ensure data confidentiality. NTT's security begins with enhanced authentication protocols, requiring adjudication from multiple chains of trust, then adds end-to-end encryption with NTT's patented cryptography. Edge-EndPoint (E2P) further extends protections to edge computing and endpoint devices (low Swap/legacy & modern).

POC: William Brooks, wbrooks@axiomsecure.com

2:30-2:45 PM



Flyt Aerospace

Novel Sensor for Accurate UAV Navigation in GPS-denied Environments

The AdaptiTrace tracking module is a low-cost, low-power, standalone tracking module capable of precisely tracking 3D position in real-time with <1-meter accuracy without external signals or hardware. The tracking technology allows for high-accuracy 3D location tracking of Army UAVs in GPS-denied environments and serves as an effective positioning and navigation solution for critical Army needs.

POC: Ansel Misfeldt, ansel@flytaero.com



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3:00-3:15 PM



Moleaer, Inc.

Oxygenated Nanobubbles for Various Military Applications Including Waste-Water Treatment

Moleaer's Nanobubble Technology produces high concentrations of nanobubbles for various industries and applications. Nanobubbles are 70-120 nanometers in size, 2500 times smaller than a single grain of salt, they can be formed using any gas and injected into any liquid. Due to their size, nanobubbles exhibit unique properties that improve numerous physical, chemical, and biological processes.

POC: Josh Bachner, Josh@Moleaer.com

3:30-3:45 PM



Notch, Inc.

Passive and Controllable RF Signature using Lightweight Metasurfaces for Army Platforms and Equipment

Notch develops novel RF products using an enabling low SWaP-C technology called RF metasurfaces. Notch's RF metasurfaces can be made controllably transmissive/reflective, frequency tunable, or absorptive to radio waves and so can be used in applications to detect and protect against jamming/spoofing attacks, enhance communication range, and reduce signature.

POC: Shahriar Khushrushahi, shahriar@notchtechnologies.com

4:00-4:15 PM



Protonex LLC dba PNI Sensor

FORT Plus – Zippo-sized APNT Tracker for the Dismounted Soldier

FORT (Field Ops Remote Tracker) is a step-level accurate inertial tracking module the size of a small Zippo lighter intended specifically for the dismounted soldier. It is fully self-contained and needs no initialization, GPS, RF beacons, or any other external locating sources. It is purely inertial and operates entirely with magnetic, acceleration, gyroscopic and pressure sensors.

POC: George Hsu, ghsu@pnicorp.com

4:30-4:45 PM



Sempulse Corporation

Next Generation tracking of Human Performance

Sempulse's vital signs monitor is made up of 4 components. The Halo is a miniature device that is worn on the back of the ear and neck to provide continuous and real time vital signs which is viewable on the LiveCharts app on smart device displaying one to multiple users. Data is stored and disseminated on the secure Command Cloud where it is analyzed with Life Analytics algorithms.

POC: Kurt Stump, kurt@sempulse.com

5:00-5:15 PM



Tyfast Energy Corp.

Ultimate 6T Battery for Future Army Vehicles

Tyfast proprietary LVO anode replaces conventional graphite in lithium batteries deliver an ultimate 20x faster charging (3-mins), 20x more cycle life (20,000 cycles), and enhanced battery safety.

POC: Gerardo Jose La O', gj@tyfast.energy



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Tuesday, June 20, 2023

1:00-1:15 PM



Carbon SiC Technologies, Inc.

Affordable and Production Scalable Thermal Protection Systems For Hypersonic Vehicles

Carbon SiC Technologies can provide and integrate the next generation affordable composite material for hypersonic components using several years of experience in development of Fused Carbon Fiber ultra-high temperature ceramic composites via spark plasma sintering. Spark plasma sintering turns 3-12 weeks of production into 3-4 hours.

POC: Clifford Leonard, cleonard@carbonsic.com

1:30-1:45 PM



Dragoon Technology, LLC

High Endurance Multi-Mission Swarming Unmanned Aircraft

Dragoon's AT-1 aircraft is a small (20 lbs), long endurance (24+ hrs), very low-cost unmanned platform designed for large scale swarming applications. The aircraft is based around a tightly integrated electronics package for low-cost manufacturability and a novel hybrid electric powerplant unique to its size class, enabling very long flight times in a hand launched size class.

POC: Jason Douglas, jasondouglas@dragoon.tech

2:00-2:15 PM



ForSight Technologies dba TeraDAR

High-Resolution Terahertz Sensing for Army Autonomous Operations

TeraDAR has developed the first ever terahertz high-resolution imaging radar on a chip, enabling low-cost, advanced perception capabilities and secure terahertz communication signal transmission. TeraDAR can operate effectively despite hostile environment conditions, such as rain, snow, sleet, fog, dust, wind, hail, lighting or light objects.

POC: Matthew Carey, mcarey@teradar.com

2:30-2:45 PM



Helicoid Industries, Inc.

BioHel-HTC: Bio-inspired Helicoid for Low Cost, High Toughness High-Temperature Resistant Composites

BioHel-HTC leverages the bioinspired Helicoid™ technology, which consists of 2D helicoidal distribution of fiber orientations, to deliver outstanding damage tolerant high-temperature resistant composites at a low cost, enabling larger part size, higher production volumes and lighter structures for supersonic and hypersonic applications.

POC: Chadwick Wasilenkoff, chadw@helicoidind.com

3:00-3:15 PM



J3D Labs, Inc.

Automating Predictive Maintenance to Improve Vehicle Fleet Mission Readiness

FLIP is a predictive analytics platform for asset management, designed with database interoperability to automate intelligent maintenance recommendations based on our ML models. FLIP offers asset-heavy enterprises the easiest way to track, plan, and optimally schedule asset maintenance, through our custom analytic dashboards and predictive maintenance scheduler.

POC: Jordi Vila, jordi@goflip.ai



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3:30-3:45 PM



NanTenna

Ultra Low-Profile Soldier Worn L-Band SATCOM Antenna

An ultra-low SWaP soldier worn antenna for L-Band SATCOM, measuring 7" x 3.5" x 1" or less, it is designed to be velcro'd right to a Soldiers backpack. Will feature 3+dB of gain and an omni directional pattern.

POC: John Novak, johnnovak@nantennarf.com

4:00-4:15 PM



Talus Ridge

Talus Airflow & Ballistic Support Platform

The Talus Ridge Ballistic Carrier Support Platform is a new base layer shirt with adjustable shock absorbers that provides dramatic improvements in ballistic impact energy reduction, increasing survivability by up to 85% while providing cooling, improved comfort and fit.

POC: Sara Hall, sara@talusridge.com

4:30-4:45 PM



Soar Technology, Inc.

Centralized Control of Commercial Drones (C3D)

SoarTech's C3D system enables an operator with minimal training to define and manage multiple simultaneous and persistent UAS missions. C3D takes care of mission planning, UAS assignment and the details of airspace deconfliction and on-station replacements. The Hive automatically launches, recovers, stores, and recharges the UAS for the next mission.

POC: John Sauter, john.sauter@soartech.com

5:00-5:15 PM



WingXpand

8ft Backpackable Autonomous UAS

WingXpand is a U.S. made and patented 8ft fixed wing UAS that expands from a rucksack. It has an open systems architecture, flies autonomously, and has 2lbs of modular payload including an Edge AI processor for real-time alerting of criterion of interest. It also enables a secure, ad hoc communications network. WingXpand UAS can fly cooperatively or in a family of systems approach.

POC: James Barbieri, james@wingxpand.com

5:30-5:45 PM



Xona Space Systems Inc.

Pulsar: A Resilient and AltNav PNT Service

Xona's Pulsar precision LEO PNT service leverages the recent advances in small satellite technology to provide users with a secure and robust alternative to GNSS from satellites ~25x closer to Earth. By combining Xona's patent pending system architecture with the efficiency of small satellites, the Pulsar service can provide an affordable global service with 10x better accuracy than GNSS.

POC: Jessica Hulsey, jessica@xonaspace.com