

xTechSearch 3.0 Phase IV Finalists Business and Technology Descriptions

Business Name & Logo	Business Description	Technology Description
<p style="text-align: center;">Anti-Rotational Technologies (ARTs), Inc.</p>  <p>POC: Mahdi Al-Husseini mah9@gatech.edu</p>	<p>Anti-Rotational Technologies (ARTs) supports helicopter hoist operations through the development of operationally unobtrusive and technically sound stabilization systems that reduce the burdensome cognitive load on military aircrews. ARTs was founded by Soldiers for Soldiers, and is comprised of three military pilots, two mechanical engineering doctoral students, and a physician.</p>	<p>Medical evacuation missions require that helicopter hoist operations be performed in the face of disadvantageous environmental conditions. Helicopter hoisted objects tend to spin due to rotor downwash. Spinning is a potentially catastrophic event that can be life-threatening for evacuees. SALUS is an operationally unobtrusive reaction-wheel stabilization assembly suited for harsh environments.</p>
<p style="text-align: center;">Cayuga Biotech, Inc.</p>  <p>POC: Damien Kudela damienk@cayugabiotech.com</p>	<p>DOD-funded, Cayuga is developing IV therapy for uncontrollable hemorrhage for the battlefield. Founded by two PhDs, Cayuga's team utilizes decades of scientific, regulatory, and clinical expertise in drug development to support the warfighter by enabling treatment immediately after injury. Combat casualties are an unfortunately reality – with Cayuga, the warfighter will live to tell the story.</p>	<p>Cayuga's technology is an injectable drug that accelerates clotting to reduce blood loss following injury. The drug is stable for battlefield use and can be delivered in the same packaging that combat medics currently use to treat injured soldiers. 90 % of combat fatalities occur prior to hospital arrival. Cayuga's proprietary technology will reduce deaths by improving treatment on the battlefield.</p>
<p style="text-align: center;">ElectroNucleics, Inc.</p>  <p>POC: Harold Monbouquette halmonbo@gmail.com</p>	<p>ElectroNucleics Inc. is a startup company focused on the development and commercialization of a fast, inexpensive and highly sensitive means to detect the presence of pathogens in body fluids based on nucleic acid detection.</p>	<p>The pathogen detection technology of ElectroNucleics consists of a unique, electrochemical nucleic acid-based assay that is rapid, inexpensive, amplification-free, optics-free and highly sensitive.</p>

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<p style="text-align: center;">GhostWave, Inc.</p>  <p>POC: Dean Zody z@ghostwaveinc.com</p>	<p>GhostWave, Inc. is a radar company with four patents exclusively licensed to them from The Ohio State University. The team consists of the patent inventor and retired professor, an antenna expert, an engineer with a Master's degree along with the founder who has an engineering degree, an MBA, and international telecom experience.</p>	<p>The technology is radars that are stealthy, low probability of detection, low probability of intercept and anti-jamming. This is done by using a random noise generator to produce and transmit the RF signals. The transmitted signals are stored in a high-speed memory. At different range gates, the signal is compared to what is detected by the receivers. The data is processed on board.</p>
<p style="text-align: center;">Knight Technical Solutions</p>  <p style="text-align: center;">KNIGHT TECHNICAL SOLUTIONS, LLC</p> <p>POC: Tony Davila tdavila@kts-hsv.com</p>	<p>Knight Technical Solution (KTS) is an advanced concepts engineering company founded by veterans with passion for solving challenging problems. A startup SDVOSB in Huntsville, Alabama, KTS provides research and development, technical support, program management and product development. KTS products include Fixed Displacement Turbine engine, recoil reduction Ring Buffer, biomimicking UAS and C-UAS.</p>	<p>The Fixed Displacement Turbine engine is a constant rotation, fixed displacement, high compression, power dense, and energy efficient engine. Its design is based on a twin-screw compressor joined to a twin-screw expander with a precision engineered rotary valving. The FDT's simple design lends itself to burn multiple fuel, and it is highly scalable, reliable, sustainable and effective engine.</p>
<p style="text-align: center;">LiquidPiston</p>  <p>POC: Alexander Shkolnik ashkolnik@liquidpiston.com</p>	<p>LiquidPiston, Inc. develops power solutions based on advanced thermodynamics, heavy fuel-capable rotary engine platforms, and controls. Target applications: UAS direct and hybrid electric propulsion; Aircraft and land vehicle auxiliary power, and portable power generation. Status: 3HP and 40HP platforms in the maturation process; Completed DARPA and Army RIF development projects; and shipped a Compact Artillery Power System unit to PM-TAS for field-testing.</p>	<p>Our X-Engine implements an optimized thermodynamic cycle delivering 30% greater fuel efficiency than piston diesel engines and 200% – 300% greater efficiency than small turbines. The compact rotary platform enables high power density with low noise and very low vibration. For xTechSearch 3.0, LiquidPiston will demonstrate a Class 2 UAS with engine restart in-air using heavy fuel.</p>

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<p style="text-align: center;">Merciless Motors</p>  <p>POC: Nadar Ahmed nna243@nyu.edu</p>	<p>We are a small company that came out of the research lab in NYU. After 4+ years of research on the new electric motor design, we participated in many local and nation competitions, grants and accelerators, to turn this research in to a successful business.</p>	<p>Merciless Motors is developing a new improved electric motor that is 50% lighter, 33% smaller and ~5-10% more efficient than current electric motors with the same power output. This can provide longer range and better performance to vehicles all at a lower cost.</p>
<p style="text-align: center;">SIGINT Systems, LLC</p>  <p>POC: Ash Law ash.law@sigintsystemsllc.com</p>	<p>SIGINT Systems, LLC is an engineering company that uses its cross-discipline experience to develop innovative SIGINT solutions combining techniques from various fields of signal collection and processing. Our system development expertise lets us design scalable and configurable open standards architecture systems, which allow the user the maximum flexibility in meeting their mission requirements.</p>	<p>The SIGINT Systems Jaguar-X is a compact HF and low VHF sensor 1 MHz - 88 MHz that allows signal collection commensurate with tactical ISR sensitivity levels for all propagation modes - ground waves, sky waves including NVIS and mixed mode. The system also performs DF on all propagation modes from an extremely small footprint 6-inches x 6-inches.</p>
<p style="text-align: center;">Syncopated Engineering</p>  <p>POC: Jim Costabile jcostabile@syncopatedengr.com</p>	<p>Syncopated Engineering is a creative solution provider of software and embedded systems for wireless communications, signal processing and machine learning. Our CIELO cognitive radio products enable intelligent wireless applications capable of exploiting multiple "radio personalities". Our ALEGRE fog analytic acceleration products enable real-time results at the edge of the network.</p>	<p>Our large RF footprint is easy to target by our adversaries, which puts our troops at significant risk especially in forward-deployed positions. Our Mockingbird RF decoy emulates multiple "radio personalities" to deceive and confuse the adversary at a fraction of the cost of the high-value assets (people and equipment) it has been designed to protect.</p>

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<p style="text-align: center;">TexPower, Inc.</p> 	<p>TexPower was founded to commercialize lithium-ion battery technology spun out of the University of Texas at Austin. Our main products are cathode materials to replace current lithium-ion battery cathodes, powder for powder, without requiring changes to other battery components.</p>	<p>Lithium-ion batteries use significant amounts of cobalt with a vulnerable supply chain dominated by China. In addition, the limited energy density of these batteries increases weight for many military applications. TexPower offers lithium ion battery cathode materials with 10% higher energies and 25% lower material costs while eliminating the use of cobalt.</p>
<p>POC: Evan Erickson Evan.m.erickson@TexPower.US</p>		
<p style="text-align: center;">TRX Systems</p> 	<p>TRX Systems is the developer of NEON® GPS-denied location solutions, delivering location and mapping where GPS is not available or is unreliable including indoors, underground, in dense urban areas, and where GPS is jammed or erroneous. NEON delivers ubiquitous, low-cost, GPS-denied location through the use of advanced sensor fusion, ranging, and patented dynamic mapping algorithms.</p>	<p>TRX Systems will deliver NEON, a low SWaP, easy to use assured PNT device that provides position/navigation when satellite technology is unavailable or unreliable. NEON delivers continuous location during where GPS may be inaccurate or unavailable and delivers 3D personnel location indoors and underground.</p>
<p>POC: Carol Politi cpoliti@trxsystems.com</p>		
<p style="text-align: center;">XO-NANO</p> 	<p>NCP transforms regular foam products into “Smart” products that can measure impact and pressure. By adding conductive particles to liquid foam, we created the world’s first foam sensor. This technology measures the magnitude, location, and frequency of impact with lab-quality accuracy.</p>	<p>XO-NANO takes lab-quality gait analysis out of the lab and into the real world with a field-ready ground reaction force measurement system. XO-NANO’s technology creates the potential for an unprecedented study of the forces experienced by the lower extremities. This data provides an essential first step in the diagnosis and prevention of injuries to the lower extremities.</p>
<p>POC: Samuel Wilding sam.wilding@xonano.com</p>		