

## xTechSearch 2.0 Phase IV Proof of Concept Business and Technology Descriptions

Business Name & Logo	Business Description	Technology Description
 <p><b>POC:</b> Mr. Adam Khan, Founder, Chairman &amp; CTO, <a href="mailto:info@akhansemi.com">info@akhansemi.com</a> Mr. Ernest Schirmann, Sr Mbr of Technical Staff, <a href="mailto:eschirmann@akhansemi.com">eschirmann@akhansemi.com</a></p>	<p><b>AKHAN Semiconductor, Inc.</b></p> <p>AKHAN Semiconductor is a fab-lite diamond-based semiconductor technology company specializing in the production of optical and electronic device solutions for applications in Consumer Electronics, Military, Aerospace, Telecom, Automotive, and the broader electronics market. AKHAN is headquartered in Gurnee, Lake County, Illinois.</p>	<p>AKHAN has developed its Miraj Diamond® technology for protective coatings intended for directed energy and electromagnetic weaponry applications, addressing future vertical lift Army modernization priorities. Diamond's multi-layer materials can broadly be applied for the protection of both optically transparent &amp; opaque surfaces on aircraft canopies, sensor windows, &amp; other sensitive structures.</p>
 <p><b>POC:</b> Mr. Gerard Heerink, President &amp; Founder, <a href="mailto:gheerink@Cogitari.us">gheerink@Cogitari.us</a> Mr. Mike Bishop, CTO &amp; Founder, <a href="mailto:mbishop@Cogitari.us">mbishop@Cogitari.us</a></p>	<p><b>Cogitari</b></p> <p>Cogitari provides high-security wireless communication infrastructures that enhance the safety and productivity of government, military, and private organizations. By balancing technical knowledge of RF threat detection with pragmatism gained through decades of operational experience in complex environments, our solutions improve the availability and resilience of critical communications.</p>	<p>To simulate a real-world application of our concept, multiple antenna array elements, fiberoptic cable assemblies, and headend equipment comprising an R-DAS will be deployed throughout the demonstration area. Against a backdrop of visual aids, the R-DAS's capabilities for delivering secure wireless communications while detecting and locating threats to network/data security will then be explained.</p>
 <p><b>POC:</b> Mr. Greg Kangas, Project Leader, <a href="mailto:gregk@glsv.com">gregk@glsv.com</a> Mr. Kevin Nelson, Controls Engineer Lead, <a href="mailto:kevinn@glsv.com">kevinn@glsv.com</a></p>	<p><b>Great Lakes Sound and Vibration</b></p> <p>Great Lakes Sound and Vibration was established in 1996 to solve acoustic, shock, and vibration problems. Since then, we have grown into a multi-functional engineering company, offering our clients complete concept-to-solution design process in our secure, state of the art facilities. Our strength lies in our diversification of skills and our ability to solve challenging problems that require a broad range of knowledge.</p>	<p>Great Lakes Sound and Vibration (GLSV) has developed an active noise cancellation (ANC) system that provides noise reduction capabilities in military ground vehicles beyond current state of the art. The ANC system has been developed as an add-on feature, providing the unique ability to treat noise issues late in the vehicle development cycle, which is a critical asset to new vehicle programs.</p>

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 <p><b>POC:</b> Dr. Greg Bertsch, CEO, <a href="mailto:gregory.bertsch@halomine.com">gregory.bertsch@halomine.com</a> Dr. Mingyu Qiao, CTO, <a href="mailto:mingyu.qiao@halomine.com">mingyu.qiao@halomine.com</a></p>	<p><b>Halomine Inc.</b> (formerly Antimicrobial Materials Inc.)</p> <p>Halomine Inc. was founded in 2018 to commercialize novel antimicrobial technology developed at Cornell University and Auburn University and is currently headquartered in Ithaca, NY. Our mission is to help people by solving problems associated with microbial growth. The products that we develop help improve people's health and provide a safer food supply.</p>	<p>Our products include next-generation wound management materials (dressings) that deliver these advantages: potent and safe antimicrobial agents that prevent biofilm formation and kill dangerous drug-resistant bacteria, hemostatic properties that stop bleeding quickly, and advanced material properties that promote faster and better wound healing.</p>
 <p><b>POC:</b> Mr. Corbin Hennen, CEO &amp; Co-Founder, <a href="mailto:corbin@lumineye.com">corbin@lumineye.com</a> Ms. Megan Lacy, CDO &amp; Co-Founder, <a href="mailto:megan@lumineye.co">megan@lumineye.co</a></p>	<p><b>Lumineye</b></p> <p>Lumineye provides wall penetrating radar to help soldiers and first responders identify people and threats through walls. We are based in Boise, Idaho and originally spun out of the Hacking for Defense Program. Our technology is based on feedback from over 200 operators, commanders and first responders. We are currently piloting our devices with law enforcement and search &amp; rescue teams.</p>	<p>Our radar device detects moving and still people from more than 10 meters away. The device weighs less than a kilogram and is manpackable. We will demo our device live on stage during the presentation. In our presentation, we will share user research learnings, conduct a brief technological overview, share our next steps and our product development timeline.</p>
 <p><b>POC:</b> Ms. Nanci Hardwick, CEO <a href="mailto:nanci.hardwick@MELDManufacturing.com">nanci.hardwick@MELDManufacturing.com</a> Dr. Chase D. Cox, Director of Technology, <a href="mailto:chase.cox@MELDManufacturing.com">chase.cox@MELDManufacturing.com</a></p>	<p><b>MELD</b></p> <p>Our woman-owned small business sells MELD machines and services from our headquarters in Virginia. We hold 13 patents on the MELD process which has won numerous awards, including most disruptive new technology in the R&amp;D 100. Machines offer up to 82 cubic feet of build space and the ability to process the widest variety of metals possible.</p>	<p>At the point of need: repair or build with MELD anywhere because it is open atmosphere, safe, low power, makes wrought fully dense material, and is the only metal additive process that lets you use practically any metal, in solid bar or powder form. These unique advantages are because with MELD, you don't melt the metal. Visit MELD in booth 2945 throughout the event.</p>

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 <p><b>POC:</b> Dr. Markus Novak, Founder &amp; CEO  <a href="mailto:markus@NovaaRF.com">markus@NovaaRF.com</a>            Mr. Rob Russell, Business Lead,  <a href="mailto:rob@NoaaRF.com">rob@NoaaRF.com</a></p>	<p><b>Novaa</b></p> <p>Novaa Ltd is a startup founded in late 2016, with the mission to deliver disruptive innovations to the way we access and use the RF spectrum. Our research focuses on low size, weight, and power antenna and RF architectures to tackle the toughest challenges in sensing, navigation, and communications. Current innovations include resilient GPS, ultra-wideband, and same frequency full duplex.</p>	<p>Antenna technology providing protected access to GPS. Uncontested access to GPS-based PNT cannot be assumed. Operators face near-constant threat of denial (jamming), degraded accuracy due to buildings or terrain (multipath), and manipulation with faked signals (spoofing). Novaa's antenna platform provides impervious access to GPS signals, suppressing unwanted jamming, spoofing, and multipath.</p>
 <p><b>POC:</b> Dr. Steven G. Venticinque, MD, Co-Founder &amp; Chief Medical Officer  <a href="mailto:sventi@olifantmedical.com">sventi@olifantmedical.com</a></p>	<p><b>Olifant Medical</b></p> <p>Securing the airway is the most stressful and time-critical procedure that medical providers perform. Austere environments and urgent conditions intensify the challenges and risks. Olifant Medical's mission is to create innovative airway management solutions for medical professionals. Our vision is to ensure better patient and provider experiences through 100% first-pass airway management success.</p>	<p>Consistent and rapid first-pass success is essential during airway management in order to avoid life threatening complications, yet many clinicians still struggle to achieve this goal. Olifant medical has identified the anatomic and ergonomic factors that interfere with successful tracheal intubation and has designed a stylet technology that overcomes these barriers.</p>
 <p><b>POC:</b> Dr. Jared Schwede, CEO  <a href="mailto:jared.schwede@sparkthermionics.com">jared.schwede@sparkthermionics.com</a>            Dr. Yonas Yemane, Senior Scientist,  <a href="mailto:yonas.yemane@sparkthermionics.com">yonas.yemane@sparkthermionics.com</a></p>	<p><b>Spark Thermionics, Inc.</b></p> <p>Spark Thermionics is developing is developing a transformative silent generator based on thermionic energy conversion. This 300+ W multifuel generator can translate to up to a 5-fold reduction in weight of the power sourced carried by the warfighter. These generators will dramatically easy transportation and greatly improve mobility.</p>	<p>We will showcase our thermionic devices, which form the core of Spark's generator. These devices directly convert heat to electricity for true fuel flexibility, relying on modern materials and wafer fabrication techniques to leap-frog competing approaches and enable novel capabilities.</p>

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 <p><b>POC:</b> Ms. Evaguel Rhysing, Founder/CEO, <a href="mailto:evaguel@uairtek.com">evaguel@uairtek.com</a> Mr. Daryian Rhysing, Founder/CTO, <a href="mailto:rhysing@uairtek.com">rhysing@uairtek.com</a></p>	<p><b>United Aircraft Technologies, Inc</b></p> <p>UAT is developing a smart aircraft clamp solution with an Augmented Reality Monitoring System for aircraft wiring that improves fuel economy (overall weight reduction of the aircraft), decreases the occurrence of Repetitive Strain Injuries among the workforce, improves aviation/aerospace maintenance through 3D fault location and visualization, and reduces the environmental impact of CO2 emissions.</p>	<p>UAT will present a smart interconnecting clamp with a 3D visualization system to provide maintenance crews wiring fault localization. UAT will showcase wireless sensing technology to help expand the utilization of Augmented Reality to beyond all electrical wiring maintenance. The anticipated benefits will apply equally to aircraft weight savings and reduction of Repetitive Strain Injuries (RSI).</p>
 <p><b>POC</b> Mr. Russ Carlson, VP Aerospace Opns, <a href="mailto:russ.carlson@vts-i.com">russ.carlson@vts-i.com</a> Mr. Allen Yan, Systems Engineer <a href="mailto:allen.yan@vts-i.com">allen.yan@vts-i.com</a></p>	<p><b>Valley Tech Systems, Inc. (VTS)</b></p> <p>Valley Tech Systems, Inc., (VTS) is an aerospace engineering company that specializes in innovative rocket propulsion systems and command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) systems and services. The privately held company has its headquarters in Folsom, Calif., and its propulsion development facility in Reno, Nev.</p>	<p>Valley Tech Systems' innovative active nozzle concept applies controllable solid propulsion technology to modernizing Army rockets. This all-in-one axial propulsion system with integral thrust vectoring can extend range, improve precision and reduce cost. Initial trade studies for a sample application indicate a 53% increase in lethal range and a 70% decrease in turning radius.</p>
 <p><b>POC:</b> Dan Morozoff, Co-Founder &amp; CTO <a href="mailto:dan.morozoff@vidrovr.com">dan.morozoff@vidrovr.com</a> Mr. Connor O'Day, Head of Business Development, <a href="mailto:connor.oday@vidrovr.com">connor.oday@vidrovr.com</a></p>	<p><b>Vidrovr, Inc.</b></p> <p>Vidrovr builds video understanding systems. Vidrovr's dual-use system is leveraged by the large media, tech and intelligence companies. The DoD and the State Dept. utilize Vidrovr to track disinformation campaigns and track fake news and other PAI applications. Vidrovr is also developing video processing capabilities for force protection, airborne and ground level platforms leveraging FMV.</p>	<p>Vidrovr has built a high bandwidth, source agnostic machine-learning/computer-vision system to detect and link valuable intelligence from online, broadcast and other sources of PAI and FMV. It creates a knowledge-graph off these features which allows for various applications in 2nd generation machine inference. It is funded by the NSF, the Air Force and is a potential performer on DARPA SEMAFOR.</p>