

## 2022 ENCOUNTERING INNOVATION BLUF STATEMENTS

### OTHER

<p>Bluewave Semiconductors</p>	<p>High performance wear and ATOX resistant optical coatings</p>	<p>Blue Wave Semiconductors has innovative optical coatings that can be applied to high technology optical components and devices for improvement of their optical performance. Blue Wave Semiconductors has established know-how and knowledge based on radiation hard coating material library created in SBIR Phase I and II that will allow scale-up the technology for prototyping for DOD's applications. The optical multilayer coatings can be applied to UV to IR optical spectrum with enhance optical transmission and have extreme radiation hardness and chemical resistant to ATOX. Coating process can be scaled to large areas and curved surfaces. Coatings can be ready to validate end use applications. Technology applicable to functional surfaces such as windows for missile domes, X-rays windows, Solar Blind UV, Visible Blind UV detectors, UV filters, and detectors, Night vision goggles, Missile guidance systems, Infrared sensors, Security cameras, Thermal imaging system, MWIR and LWIR imaging system.</p>
<p>Eck Fabrication</p>	<p>Machine Gun Barrel Cooling System</p>	<p>Tech Transfer: Machine Guns have limited capacity by the barrels overheating. Our <b>Barrel Chiller</b> technology will significantly reduce barrel temperatures with sustained fire from the weapon. This will enable machine gun operators to greatly increase their sustained rate of fire from a single barrel. No carrying of a secondary barrel either as they can simply operate the single barrel until it finishes its long term lifespan. A multitude of side benefits from more consistent accuracy, reduction of operator requirements or stress, user safety benefits, and a noise level reduction. Help Eck Fabrication develop this gun technology with field testing and financial support.</p> <p>Matchmaking: Eck Fabrication is a manufacturing company with a passion for research &amp; development. We are a small scale manufacturer in the metalworking industry who excels at low volume detailed jobs. Our niche is Stainless Steel machining and welding. We are not your normal operation that can just make parts. EckFab can create and finish complex solutions from just starting with the problem. Have a unique challenge that needs a true craftsman like solution? We are excellent at thinking outside the box and can complete an impressive array of work with our natural "toolmaker" abilities. When you think of that "Ole Maintenance Guy" that could make anything in the entire plant, well we are those kind of metalworking guys but in our 30s.</p>

Enduralock LLC	Mechanically Locking Fasteners and Self-Aligning Nut Plates That Improve Maintenance Times and Reduce Cost	Fasteners are often overlooked as commodity items, but their reliability and attributes are essential not only to the warfighter but essential also in the reduction in the time and cost of maintenance for the Command. Enduralock® offers numerous fastener designs, all intended for use in high vibration harsh environments. All Enduralock® fasteners are mechanically locking, highly vibration-resistant permanent fasteners, but for maintenance they are fully reversible and reusable with a standard hex socket. They remain locked even with total loss of preload (clamping force). In vibration testing, Enduralock® fasteners withstood 10x the aerospace requirement. Enduralock®'s self-aligning nut plate will engage an off-axis bolt and then self-align during tightening. It also provides for a fixed position panel bolt retaining ring, which reduces the chance of FOD (foreign object debris). Enduralock® fasteners and nut plate provide for a dramatic reduction in the time and cost of installation and maintenance.
George Coffman Electric	IIOT > World	The Internet of things are sensors that collect endless types of measurements. With enough measurements (data) anything can be predicted. Connecting, collecting, and analyzing the data and making it available everywhere in real time will change everything. Architecting the network, the correct way, and utilizing the correct technology will allow networks (that collect data) to scale much more quickly if they utilize the correct architecture and software. Deploying sensors and using that information in a digital ecosystem helps leverage modern technology allowing data to become information and that to be displayed in a way that it can be acted upon in real time.
Hornet Cutting Systems	Rocket Stop: Patented Compressed Gas Cylinder Explosion Prevention Device	This technology prevents gas cylinders from shooting off like a rocket if a cylinder is knocked over and the regulator is broken off. It can also help reduce the chance of gas cylinders exploding if there is a fire, and the regulator fails or melts. A full-sized gas cylinder weighs approximately 100 pounds and can be lethal to humans and destructive to property if it is laying on its side and being propelled like a torpedo by escaping gasses due to a catastrophic failure of the cylinder's regulator. The Rocket Stop is ideal for any industrial or high-risk environment, expeditionary force, or the Navy.
Integra Technologies LLC	Semiconductor Assembly Manufacturing, Testing ,and Qualification for DOD & DOE process	Integra Technologies LLC, a DMEA Trusted and an employee owned company with locations in Wichita, KS, Silicon Valley, CA, and Albuquerque, NM, is one of the largest semiconductor die prep, assembly, test & qualification facilities in the United States. Integra's operations have been satisfying customers for over 35+ years by providing a wide variety of semiconductor services including: Die Prep, Assembly (plastic and ceramic), Test Development, Final Test, Characterization, Wafer Probe,

		Volume Production Test, Qualification Services (HTOL, HAST, Temp Cycle), DPA, CSAM, Failure Analysis, PEM Qualifications, Up-screening, Counterfeit Detection, Obsolescence Management, and Trusted Processing. Integra has one of the largest and most experienced test engineering organizations offering support for every device technology including FPGA, Microprocessor, ASIC, RF, Mixed Signal, Digital, Linear, Analog, SiP and MCMs. Integra provides 24x7 high or low volume US based manufacturing capacity and has demonstrated industry leading quality and on time delivery performance.
Knowledge As a Service, Inc.	Ringorang	Human performance technology on mobile devices that turns training into habits. All within the flow of daily duties. The software is clinically tested by the U.S. Federal Government and national laboratories in effectively shifting human behavior. Helps individuals change their habitual responses to changes in environment. Used for peak performance, compliance and mental health. Takes less than five minutes a day to deliver results. Software is currently in market, scaled globally.
Mohammed Hossein Khaleghian	Sewer Systems Data Management and Analytics Software as a Service	This technology is an AI-enabled data quality assurance and comprehensive data management and analysis tool for the sewer inspection data that helps municipalities to save money by 10-20 cents per linear feet for quality assurance of condition assessment data which facilitates proactive asset management for sewer systems to save at least 20% of rehabilitation costs – equating to millions of dollars per year.
Resono Pressure Systems Inc	Robust and Reliable Pressure Sensing Technology for Aeropropulsion Applications	Robust and accurate measurement of unsteady surface pressure is vital for the characterization, modeling, prediction, and control of hypersonic and airbreathing propulsion systems. However, time-resolved unsteady pressure measurements at many locations with high accuracy and reliability during propulsion, wind tunnel, and flight testing have been challenging for instrumentation engineers. Resono is developing an innovative approach to provide a robust and cost-effective system enabling routine unsteady pressure measurements in hypersonic and aero-propulsion research, development, test, and evaluation applications. We believe our technology will contribute to solving a mission need for NASA, Air Force (USAF) and other Department of Defense (DoD) organizations.
Weaver Labs	Fluor-Mop, a Smart PFAS Adsorbent Material Designed from First Principals	This technology selectively adsorbs perfluoroalkyl substances (PFAS), nicknamed “forever chemicals,” from the environment. PFAS are prevalent in the environment and in many public drinking water and groundwater systems across the world, including most DoD bases. Aqueous Film Forming Foams (AFFF) containing PFAS were used

		beginning in the 1970's at military installations throughout the U.S, leading to environmental exposure. PFAS bioaccumulates and multiple studies have linked PFAS to serious diseases such as cancer, thyroid disease, changes in liver enzymes, increases in cholesterol levels, and many other diseases. Regulatory agencies are implementing increasingly stringent measures to reduce PFAS exposure. This technology can be a drop-in, additive, or stand-alone component used in remediation and is regenerable providing significant savings to environmental remediation customers.
WTW Tools, LLC	The Hose Tool, Hose Coupler/Collar Repair Tool for 3 & 4 Inch	The HoseTool is a safer alternative to the brute force sledge hammer method of replacing couplers/collars on industrial hoses. An operator can single-handedly make repairs in the field without the assistance of electricity or pneumatics and without the risk of injury.
Zentech Technical Services Inc.	ZenCrack™ - Software to predict crack growth & residual life	ZenCrack™ assists in modelling and analysis of cracks to predict crack growth and remaining useful life of engineered components. ZenCrack™'s advanced engineering analysis uses 3D Finite Element Modelling with adaptive meshing techniques and non-linear time domain analysis capabilities for accurate prediction of crack advancement under complex loading conditions. ZenCrack™ simulations are reliable and meaningful for modeling growth of cracks in a complex time dependent loading conditions and under fatigue stress. ZenCrack™ is at Technology Readiness Level 6 and addresses DoD requirements of sustainment support.
Zentech Technical Services Inc.	ZAIMS™ - Software for Asset Integrity Management of Marine & Offshore Assets	ZAIMS™ is a software solution which assists in managing structural integrity of offshore and marine assets. ZAIMS™ allows for analyzing, organizing and, recording results of multiple inspections, corrosion, damages, to structures / assets during their lifecycle. ZAIMS™ is extensively marketed and used in offshore and marine industry for structural integrity management of offshore platforms, drilling rigs and ships. ZAIMS™'s advanced engineering analysis are useful in predicting remaining useful life of structural sections and optimizing steel replacement required. ZAIMS™ is at a Technological Readiness Level 6 and addresses DoD requirements of sustainment support.