

SBIR/STTR Applicant Overview (Batch 6)

Prepared by: Jamie Gladfelter, Emerging Technologies Manager

Submitted for Director Approval: 6/18/24

Applicant	Award
<p>● Episensors Received ~\$140k from Department of Defense to build a digital system to mix passive RF with a pre-existing IR image processing core. A passive multimode IR and RF sensor fusion platform in a missile seeker guidance system would greatly benefit a missile's capabilities in tracking and locking to a target.</p>	\$50,000.00
<p>● Celadyne Technologies Received ~\$200k from Department of Energy for the development of a catalyst coated membrane that is ready for integrated fuel cell testing. New hydrocarbon membranes can catalyze adoption of a hydrogen economy by enabling a pathway to market starting with heavy industrial applications</p>	\$50,000.00
<p>● Terry Ventures Received ~\$272k from National Science Foundation to develop a device for ensuring a safer and more consistent transition from a sit-to-stand posture in patients using front-wheel walkers. Partnered with SIU-Carbondale.</p>	\$50,000.00
<p>● Institute for Practice and Provider Performance Improvement Received ~\$222k from National Institutes of Health to build a prototype system that performs automated 4C (Content Coding for Contextualization of Care) coding of transcribed audio-recorded medical encounters. Partnered with UIC.</p>	\$50,000.00
<p>● Thyreos Received ~\$297k from National Institutes of Health to develop a live-attenuated HSV-2 (herpes simplex virus) vaccine based on their R2 technology platform. Partnered with Northwestern University.</p>	\$50,000.00

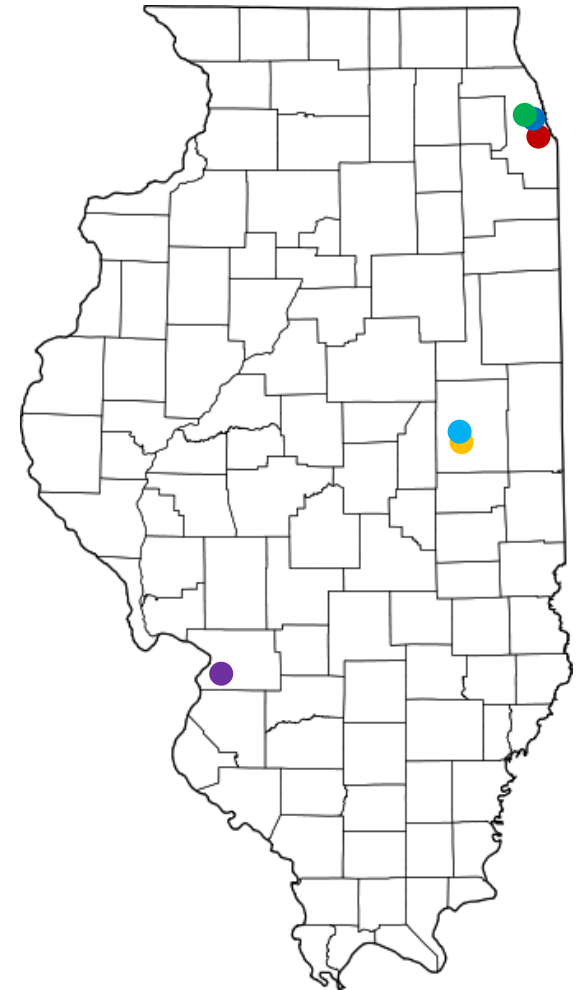


SBIR/STTR Applicant Overview (Batch 5)

Prepared by: Jamie Gladfelter, Emerging Technologies Manager

Submitted for Director Approval: 1/15/24

Applicant	Award
<p>Electro Magnetic Applications Received ~\$140k from Department of Defense (Navy) for the generation of fully polarimetric synthetic radar signature data for targets of interest to NAVAIR. Partnered with UIUC.</p>	\$50,000.00
<p>Starfire Industries Received ~\$200k from Department of Energy to pathfind means to apply superb anti-corrosion coatings with low interface contact resistance and enable recycling/reconditioning of used bipolar plates at end of life. This incremental step will further the DOE's comprehensive energy portfolio goal to achieve net-zero emissions—particularly in the transport sector. Partnered with UIUC</p>	\$50,000.00
<p>QuantCAD Received ~\$156k from NASA for the development of a quantum sensor for deuterium-to-hydrogen ratio (D/H) ratio measurement in water in outer planets. The ratio of deuterium to hydrogen in water helps determine where in the solar system an object originated. Affiliated with Duality quantum accelerator at UoC.</p>	\$50,000.00
<p>Somatolynk Received ~\$500k from NIH to advance a first-in-class Somatostatin receptor-4 agonist drug for Alzheimer's Disease treatment. Affiliated with SIU-Edwardsville</p>	\$50,000.00
<p>RESDEF Received ~\$105k from Air Force for the development of headset directional - noise isolation and communication (HD-NIC) platform, the first over-ear headset offering both comfort (through noise isolation) and enhanced communication, thus positively increasing mission performance</p>	\$50,000.00
<p>Orbital Transports Received ~\$140k from NASA for the development of an artificial intelligence for systems engineering, a digital design assistant enabling reuse of systems models.</p>	\$50,000.00



SBIR/STTR Applicant Overview (Batch 4)

Prepared by: Jamie Gladfelter, Emerging Technologies Manager

Submitted for Director Approval: 11/7/23

Applicant	Award
<p>Lakril Technologies Corporation* Received ~\$256k from National Science Foundation for the development of technology for conversion of corn-derived lactic acid to acrylates and acrylic acid at >90% yield for paints, coatings, and superabsorbent polymer markets at cost parity with existing materials.</p>	\$50,000.00
<p>Stochastic Research Technologies Received ~\$256k from National Science Foundation for the development of a novel and cost-effective technology to remove NORM (Naturally Occurring Radioactive Materials) from the wastewater produced by fracking.</p>	\$50,000.00
<p>Iris Light Technologies, Inc.* Received ~\$207k from Department of Energy to development technology that allows printable lasers to be produced at chip foundries, enabling energy-efficient data centers and high-performance computing.</p>	\$50,000.00
<p>Additive Monitoring, Inc. (now Phase3D)* Received ~\$75k from Air Force for development a real time defect detection system for additive manufacturing (metal 3d printing)</p>	\$50,000.00
<p>NeuroLux, Inc. Received ~\$260k from Department of Health and Human services for development of design a fully implantable, wireless, battery-free, Mechano-Acoustic (MA) device that allows for multi-parameter physiological data acquisition from freely moving small animal models, via use of high bandwidth triaxial accelerometers.</p>	\$50,000.00

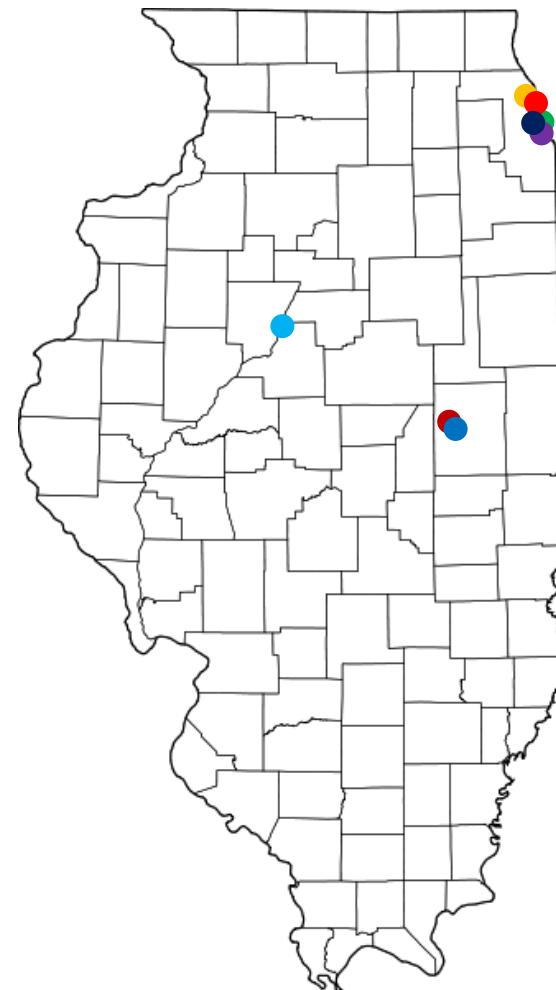


SBIR/STTR Phase I Matching Applicant Overview (Batch 3)

Prepared by: Jamie Gladfelter, Emerging Tech Manager

Submitted for Director Approval: 9/19/2023

Applicant	Award
<p>Enduvo Received ~\$140k from DOD for the development of a Marine Corps Virtual Classroom utilizing digital twin technology.</p>	\$50,000.00
<p>MicroLink Devices Received \$150k from NASA for the development of an array for high efficiency power beaming, a technology applicable for powering rovers on the Lunar or Martian Surface.</p>	\$50,000.00
<p>CU Aerospace Received \$150k from Air Force for development of a universal payload interface for modular components, a technology that allows for the carriage of significant payloads during the launch load of satellites and other aerospace objects.</p>	\$50,000.00
<p>Tango Biosciences Received ~\$223k from Department of Health and Human Services for a series of experiments leading to development of a pipeline for generating high-quality affinity reagents to phosphothreonine-based epitopes of native proteins.</p>	\$50,000.00
<p>Cygnus Photonics Received \$150k from Missile Defense Agency for the development of novel technology to measure electron density related to Diode-Pumped Atomic Lasers, a technology applicable to defense and aerospace for debris removal.</p>	\$50,000.00
<p>SMYL Fitness RX LLC Received ~\$300k from DHHS for the development of novel digital biomarkers for proactive detection of functional decline, a technology with potential to impact over 34 million middle and older age adults</p>	\$50,000.00
<p>QuestTek Innovations Received \$146k from DOD to develop physics-enhanced machine learning (ML) software for error detection in additive manufacturing (AM) components</p>	\$50,000.00
<p>Clearvoya LLC Received \$257k from DHHS for the development of motion-resistant background subtraction angiography with deep learning, a technology to be used to visualize blood vessels when a patient is unable to remain still.</p>	\$50,000.00



SBIR/STTR Phase I Matching Applicant Overview (Batch 3)

Prepared by: Jamie Gladfelter, Emerging Tech Manager

Submitted for Director Approval: 9/19/2023

Applicant	Award
● Novaa Ltd Received \$150k from Air Force for the development of a compact, circularly polarized high power antenna.	\$50,000.00
● Kazadi Enterprises Ltd Received ~\$275k from NSF for the development of a technology enabling low-energy, resilient cooling that is capable of mitigating the environmental impacts and high costs of conventional refrigeration.	\$50,000.00
● memQ Inc Received ~\$200k from DOE for the development of a low-loss thermomechanically stable packaging for cryogenic quantum photonic network devices, a technology critical for future applications of quantum networking.	\$50,000.00
● Covira Surgical Received ~\$299K from DHHS for the development of a novel, non-antibiotic, microbiome-directed agent to prevent post-surgical infections	\$50,000.00
● Opera Bioscience Received \$275k from NSF for the development of a cost-effective way to produce recombinant proteins and growth factors for the cultivated meat industry.	\$50,000.00

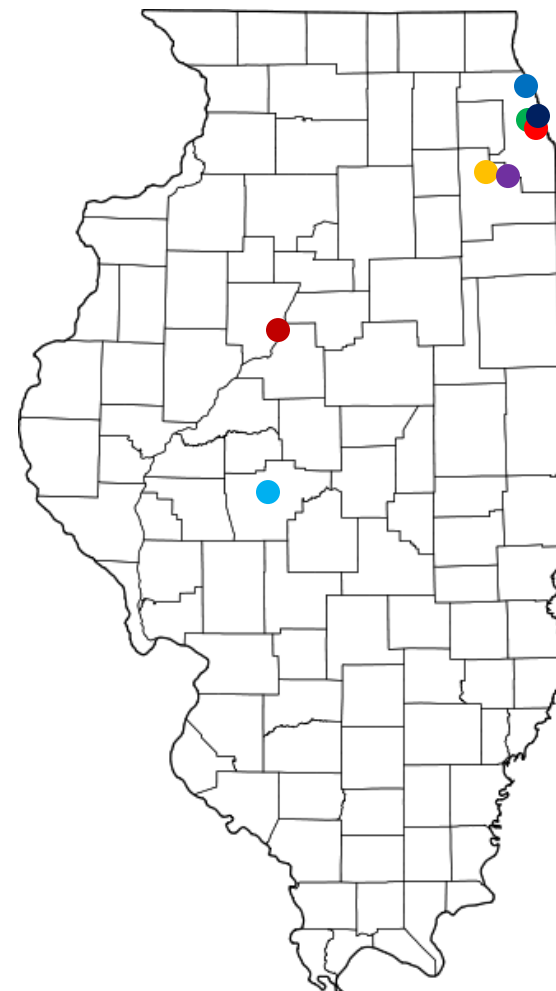


SBIR/STTR Applicant Overview (Batch 2)

Prepared by: Jamie Gladfelter, Emerging Technologies Manager

Submitted for Director Approval: 7/25/2023

Applicant	Award
<p>Uronext LLC Received ~266k from Department of Health and Human Services for a novel shape memory alloy penile prosthesis. Partnered with Loyola University of Chicago.</p>	\$50,000.00
<p>Sivananthan Laboratories, Inc. Received ~150k from Department of Defense for multiscale modeling of radiation events in infrared photodetectors to more accurately predict the failure rate of a new material of device architecture.</p>	\$50,000.00
<p>Midwest Bioprocessing Center, LLC Received ~217k in funding from Department of Health and Human Services for production of natural deoxysugars for chemical synthesis of glycosides, which play a crucial role in conferring activity in bioactive natural products, such as antibiotics and anticancer therapeutics. Partnered with University of Iowa.</p>	\$50,000.00
<p>Argos Vision Inc. Received ~255k from Department of Health and Human Services for dual targeting mitochondria and GPCR in retinal protection.</p>	\$50,000.00
<p>Aplexis, Inc. Received ~397k from Department of Health and Human Services for development of small molecule inhibitors of Pleckstrin-2 to treat thrombosis.</p>	\$50,000.00
<p>Caporus Technologies Received ~200k from Department of Energy for development of novel insulators in silicon-on-insulator substrates to improve nuclear physics sensors and circuits, applicable to medical imaging sensors and aerospace/defense sensors.</p>	\$50,000.00
<p>QDIR Inc Received ~171k from Department of Defense for a systematic approach to advance quantum dots for high performance infrared photodetection, applicable for unmanned drones for surveillance in contested environments. Partnered with University of Chicago.</p>	\$50,000.00
<p>ViSo Therapeutics, Inc. Received ~300k from Department of Health and Human Services for development of a peptide therapy for corneal wound healing. Partnered with University of Illinois at Chicago.</p>	\$50,000.00



SBIR/STTR Applicant Overview (Batch 1)

Prepared by: Jamie Gladfelter, Emerging Technologies Manager

Submitted for Director Approval: 2/10/23

Applicant	Award
<p>OceanComm Incorporated Received ~\$140k from Department of Defense for development of a scalable platform for unmanned underwater vehicle (UUV)-enabled, digitally steerable transducers, enabling more rapid coordination and deployment of UUV.</p>	\$50,000.00
<p>NuMat Technologies Received ~\$200k from Department of Energy for continuous synthesis of metal-organic frameworks for xenon capture to expand and de-risk advanced nuclear energy technologies and their associated radioactive waste stream emissions.</p>	\$50,000.00
<p>Iris Light Technologies, Inc. Received ~\$256k from National Science Foundation for development of printed lasers on silicon photonic chips. Applications include wearable photonic sensors, optical data transfer, autonomous vehicle light detection/ranging, and healthcare applications. Partnered with Boise State University.</p>	\$50,000.00
<p>Ontogen Medtech LLC Received ~\$259k from Department of Health and Human Services for the development of a catheter specifically designed to reduce bleeding complications from catheter-directed thrombolysis treatment of pulmonary embolism.</p>	\$50,000.00
<p>Insigna Inc Received ~\$175k from Department of Agriculture for development of a single injection alternative to surgical castration of newborn pigs.</p>	\$50,000.00
<p>Additive Monitoring, Inc. Received ~\$119k from Department of Defense for development of an in-situ monitoring system for additive manufacturing quality control. Partnered with Argonne National Laboratory.</p>	\$50,000.00
<p>IllinoisRocstar LLC Received ~\$206K from the Department of Energy for development of state-of-the-art machine learning models and physics-based reduced order modeling capabilities to produce representations of subsurface reactive transports that will run quickly and produce accurate results for nuclear waste repository simulation.</p>	\$50,000.00



Applicant	Award
<p>Liv Labs Inc. Received ~\$255k from National Science foundation to explore a scalable, high-tech approach to at-home treatment of involuntary urine leakage, a highly prevalent condition affecting 27 million American women.</p>	\$50,000.00
<p>EPIR, Inc. Received ~\$200k from Department of Energy for development of versatile, high-density, high-yield, low-capacitance 3D integration for nuclear physics detectors. Applications include advanced infrared detector for defense and security application for active imaging systems, such as LAser Detection And Ranging (LADAR) and a wide variety of medical imaging applications</p>	\$50,000.00
<p>Cusatis Computational Services Inc. Received ~\$173k from Department of Defense for development of computational tools for the multiscale simulation of engineered wood products under impulsive loading conditions resulting from blasts and impacts. Partnered with Northwestern University</p>	\$50,000.00
<p>Dynamac Microwave Inc. Received \$254k from National Science Foundation for development of a radio frequency (RF) network miniaturization technology and manufacturing methodologies to dramatically reduce the size, weight, and cost of RF filters. This research will develop special filters for a broad range of wireless applications, including smartphones and their infrastructure, WiFi devices, broadcast systems, and satellite systems</p>	\$50,000.00
<p>MFNS Tech Inc. Received ~\$256k from National Science Foundation to develop a widely deployable sponge technology that attracts oil and resists water to create an environmental remediation platform for oil spills and related contaminants in water bodies. Partnered with Northwestern University.</p>	\$50,000.00
<p>Lakril Technologies Corporation Received ~\$207k from Department of Energy to decarbonize the acrylic chemicals industry via a lactic-to-acrylic technology to produce sustainable and eco-friendly bio-based acrylics at cost parity with petrochemicals. Cohort company of CRI at Argonne.</p>	\$50,000.00



Applicant	Award
<p>Boron Nitride Power LLC Received \$256k from NSF for the development of lightweight, thermally safe batteries with high energy densities that can be charged fast, last a long time, are composed of environmentally benign materials, and can store energy at a low cost. Partnered with IIT.</p>	\$50,000.00
<p>Rational Cyphy, Inc. Received ~\$150k from DoD for the development of a scalable, physics-aware software tool for generating the switching logic for autonomous systems, applicable to unmanned aerial vehicles and aircraft engine control.</p>	\$50,000.00
<p>Energao, Inc. Received \$125k from Department of Agriculture for development of a novel iron-titanium redox flow battery with two detachable electrolyte storage tanks, creating an ideal solution for fire-safe low-cost and long-duration (>10 h) storage of clean energy generated in rural areas.</p>	\$50,000.00
<p>Stoicheia, Inc. Received ~\$248k from DoE for the development of a discovery platform for low-Ir anode catalysts in PEM electrolyzers, a technology that is integral for driving the transition to a renewable energy economy.</p>	\$50,000.00
<p>Automated Water Machines Inc (Kadeya Inc) Received ~\$75k from Air Force for development of a platform for safe and convenient bottled water for remote Air Force bases from raw, local water sources, with minimal logistics requirements.</p>	\$50,000.00
<p>Hinetics, LLC Received ~\$89k from NASA for a detailed study to evaluate the integration of a lightweight, high efficiency 150 kW generator-drive subsystem within the SUSAN concept aircraft. SUSAN is an advanced hybrid-electric concept aircraft designed to minimize environmental impacts and introduce innovative technologies for sustainable subsonic regional transport aircraft</p>	\$50,000.00

