



New Jersey

**CSIT**

Commission on Science,  
Innovation and Technology

# 2025 PROFILES OF COMPANY AWARDEES

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## Clean Tech R&D Seed Grant Round 4 Awardee Company Profiles

### **Canyon Magnet Energy Inc. (Essex County, 4 Employees):**

Canyon Magnet Energy Inc. is a Newark-based clean tech startup developing superconducting magnet and cryogenic subsystems that enable compact, energy-efficient systems for quantum computing, medical imaging, power transmission, and energy storage. Our high-temperature superconducting (HTS) platforms reduce thermal losses, eliminate bulky current leads, and enhance magnetic field stability—supporting cleaner, smaller, and more sustainable technologies.

**CarbonDots LLC (Mercer County, 1.2 Employees):** CarbonDots will scale and refine a novel graphite formation process developed by researchers at Rutgers University. This innovative, clean, low temperature process will be the first of its kind to convert waste polypropylene into graphitic material. The process was originally developed in 2023 and has been refined and optimized to achieve >95% graphite end product, but it is still at a laboratory-scale. This innovative process has been published in a peer-reviewed journal and the material product of the process has been characterized by industry standard methods to confirm the graphite composition.

**Cecilia Energy, Inc. (Essex County, 5.7 Employees):** Cecilia is an advanced materials company based in Newark, NJ that transforms plastic waste into structured carbon nanomaterials using a microwave-assisted reactor system. Our fully electric, modular process upcycles hard-to-recycle industrial plastics into highvalue carbon products such as graphitic carbon and multi-walled carbon nanotubes (MWCNTs).

**Cero NJ LLC (Bergen County, 1.4 Employees):** We are focused on developing innovative AI-assisted hardware and software solutions for reducing emissions and improving fuel efficiency in the heavy-duty vehicle (HDV) transportation sector.

**Coherent Photonics LLC (Middlesex County, 3.7 Employees):** This project is aimed at overcoming the limitations of optical interconnects with respect to manufacturability and cost. It will demonstrate advanced light control capabilities produced by nano-photonics interposers, differentiating them from both traditional optical interconnects and silicon photonics assemblies.

**Curbon LLC (Middlesex County, 3.1 Employees):** Curbon is developing an artificially intelligent software platform that automates life cycle impact assessments to calculate the full environmental impacts of CPGs. The system transforms raw product, supply chain, and inventory data – such as a product’s bill of materials and production methods – into verified environmental impact metrics including GHG emissions, water usage and pollution, and waste production.

**EV Buddy Inc. (Middlesex County, 1.4 Employees):** EV Buddy Inc. proposes to design, manufacture, and deploy pilot-ready prototypes of its innovative V2V (Vehicle-to-Vehicle) Portable DC Fast Charger. This patent-pending device enables one EV to deliver fast DC power directly to another EV, providing immediate roadside support without the need for fixed infrastructure or towing. The scope of this project includes redesigning the control board, fabricating a weatherresistant and certifiable enclosure, assembling 2-4 production-ready units, and validating them through pilot programs with roadside assistance providers and EV fleets.



**Fundamental Carbon Co. (Middlesex County, 2.1 Employees):** Ouro's Materials has achieved Technology Readiness Level 3, successfully demonstrating proof-of-concept for our breakthrough low-temperature ceramic-polymer composite technology. We have established a process of producing 2-diameter pucks and 0.5" diameter pellets that establish baseline properties: high compressive strength (approx. 70-80Mpa), high toughness, wood-like machinability with screwing ability drilling ability, and strong screw-hold, fire-resistance, and CO2 uptake (~30-50% carbonation by weight).

**Metal Light Inc. (Essex County, 5.7 Employees):** Metal Light is developing a critical Metal Air technology that is clean, quiet, and safe for portable power demands. Today, diesel-powered generators remain the dominant choice for off-grid and backup power, despite their significant environmental and health impacts.

**NanoSepex Inc. (Somerset County, 2.4 Employees):** Our innovation centers on carbon nanotube immobilized membranes (CNIM), originally developed at NJIT with funding from the NSF, U.S. Army, and EPRI. NanoSepex was founded to commercialize this technology and has received SBIR funding from NSF, USDA, and NIEHS. Key milestones include: (1) establishing a membrane fabrication facility, (2) scaling the process to laboratory scale pilot and completing three successful industrial demonstrations, and (3) fabricating and testing a 2-gpm explosion proof industrial scale pilot unit. Ongoing efforts are focused on upgrading this system for real-world piloting. The current technology readiness level (TRL) is between 5 and 6.

**Noble Geofurnace (Monmouth County, 1.1 Employees):** The Smart Wind Turbine Residential is engineered for seamless integration with rooftop solar panels, creating a hybrid renewable energy system that maximizes on-site clean energy generation and increases household energy independence. By addressing the limitations of traditional small wind turbines, this innovation offers a structurally resilient, efficient, and aesthetically compatible solution for homeowners seeking to reduce utility costs and lower emissions.

**Novtech LLC (Somerset County, 1 Employee):** I registered Novtech, LLC, in 2022, to develop technologies for energy efficiency improvements of chemical industry. Chemical industry, using fossil fuel, spends significant amount of energy on conventional energy in-efficient processes such as distillations and extractions to produce chemical products. We have come up with an innovative process for energy efficiency improvement by integrating reaction and separations to reduce energy required in conventional processes for chemical synthesis.

**PFASolve Inc. (Hudson County, 1.1 Employees):** PFASolve Inc. is developing a novel, field-deployable solution for rapid detection of PFAS compounds in water. The proposed innovation has successfully demonstrated proof of concept in the lab and is currently at Technology Readiness Level (TRL) 3 and Commercialization Readiness Level (CRL) 2, as defined by the NYSERDA TRL/CRL framework.

**Queens Carbon, Inc. (Morris County, 21 Employees):** Queens Carbon was spun out of Rutgers University to commercialize breakthrough cementitious material production technology. With foundational financial grant (nondilutive) support from the Breakthrough Energy Fellows program in 2022 (\$4.5M Grant), the company successfully prototyped its Q-System, built a world-class R&D team, and established its laboratory-pilot facility.



**SingletO2 Therapeutics LLC (Somerset County, 1.6**

**Employees):** SingletO2 Therapeutics LLC develops novel materials and systems that are used to treat water for aquaculture without the use of harsh chemicals as well as to safely disinfect wounds to promote wound healing without the use of antibiotics.

**Skyraptor LLC (Burlington County, 1.7 Employees):** The company is developing a semi-autonomous, AI-powered robotic system for the inspection, maintenance, and repair of onshore wind turbine blades, eliminating the need for dangerous manual labor and going far beyond drone-based inspections.

**Zaic Design LLC (Mercer County, 10.2 Employees):** Zaic Design LLC is developing an advanced decentralized wastewater treatment system called Bluefin Biofilter®, designed for installations ranging from small to large residential properties, as well as for emergency deployment.

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## Maternal and Infant Health R&D Seed Grant Round 2 Awardee Company Profile

**Curio Digital Therapeutics, Inc. (Mercer County, 8.6**

**Employees):** Curio is developing an end-to-end platform to improve women's behavioral health outcomes across the lifecycle. The platform leverages AI-driven predictive analytics to identify women at risk of common mental health disorders early and ensure that they can access self-driven, evidence-based behavioral therapy delivered digitally.

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## Catalyst R&D Voucher Company Profiles

**ACON Pharmaceuticals Inc. (Cranbury, Mercer County, 1.1 Employees):**

ACON Pharmaceuticals is developing a proposed novel long-acting cariprazine microsphere formulation. The development of this novel cariprazine microsphere formulation holds significant clinical relevance for the treatment of schizophrenia.

**Advanced Technologies for Novel Therapeutics (Millburn, Essex County, 1.1 Employees):**

The company is developing a novel therapeutics for local cancer therapy. This therapeutics belongs to the class of targeted therapies for oncology indication. They have successfully passed most of its preclinical development stage and are currently working on the last stages of IND-enabling studies.

**Aersys Inc (Edison, Middlesex County, 2.3 Employees):** Aersys is developing a high-density automated storage and retrieval system (ASRS) for retail stockrooms. The ASRS stores retail inventory in large square bins, stacked into dense grids. Robots can move in up to 3 dimensions to retrieve these bins and bring them to processing stations when needed.

**Afsartech (Rutherford, Bergen County, 2 Employees):** Afsartech operates as a company focused on developing dental sealer technology for the healthcare sector. Its main product is an expandable dental sealer designed to improve the effectiveness of root canal treatments by filling gaps and preventing leakage, thereby enhancing patient safety and reducing the risk of infection.

**APY Therapeutics (North Brunswick, Middlesex County, 1.2 Employees):**

APY Therapeutics LLC is developing arylmyxopyronins--APYs--as novel first-in-class oral treatments for lower-respiratory-tract infections and skin-and-soft-tissue infections caused by Gram-positive and fastidious Gram-negative bacteria, including by drug-resistant, multi-drug-resistant, and pan-drug-resistant isolates.



**AuraSense Tech Corporation (Newark, Essex County, 1.1 Employees):** AuraSense brings access to neurological care to those without access in healthcare for those that need it most by using a proprietary holographic telehaptics hardware solution, HapticsHealth™ that enables quantitative remote physical assessments, interventions, and neuroscience-designed engagement through multiplayer virtual worlds, augmented reality experiences, and therapeutic games.

**BioTech Support Group LLC (Monmouth Junction, Middlesex County, 4.9 Employees):** The mission of the company supports the growth in proteomic sample prep, with unique and proprietary surface chemistries. They create new methods and applications to drive efficient workflows and better data quality for all downstream proteomic and biomarker analyses.

**Discogen LLC (Harrington Park, Bergen County, 1.1 Employees):** The company is developing a noninvasive technology for the treatment of spinal disc degeneration.

**Endomedix, Inc. (Montclair, Essex County, 5.7 Employees):** Pre-clinical MedTech venture Endomemdx's PLEXimine™ novel chemistry platform can be tuned to produce 5 separate product groups, including biosurgical devices that solve problems that can't be addressed by the legacy devices. Its PLEXimine™ technology uses starting materials with a history of use in FDA-regulated products and imparts to them unique features and characteristics. Its lead product, PlexiClot™ Absorbable Hemostat, is fast acting and eliminates through technology the risk of paralysis and reoperation due to device swelling.

**Eneira LLC (Hillsborough, Somerset County, 3 Employees):** The company focuses on development of advanced microfabrication processes and wafer-level thin film deposition to create high-performance microdevices with novel materials.

**EnergyBioCode LLC (Cedar Knolls, Morris County, 1.1 Employees):** EnergyBioCode offers advanced cell-based assays that closely replicates physiological conditions using primary cells, that can accelerate the discovery of effective therapies that support finding a cure for breast cancer.

**Favorite Pharmaceuticals Inc. (Edison, Middlesex County, 1 Employee):** This company is focused on the development of advanced conjugation chemistry and targeted delivery systems as an innovative approach to improve drug specificity and efficacy.

**K&J Design (Carteret, Middlesex County, 2 Employees):** The company is developing the UV Drink Locker, a self-sanitizing unit designed for installation in public restrooms. It is a seamless integration that utilizes UV technology to kill a vast majority of germs and bacteria, including E. coli, salmonella, MRSA, and many others that are common in such settings. The activation is hands-free, initiated by a simple hand wave, ensuring minimal contact and maximum hygiene. The product represents not just a tool for cleanliness but a stride towards health-conscious living in public spaces.

**Kathera Bioscience Inc. (Union, Union County, 5.5 Employees):** Kathera Bioscience, Inc. is a biotech startup company developing much needed, novel, broad spectrum small molecule antifungal drugs against new enzyme targets for which there are not currently FDA or EMA approved drugs. The company currently has two antifungal programs in different stages of preclinical Research & Development (R&D).

**LockGuard LLC (Readington, Hunterdon County, 1.3 Employees):** The company is building home security products specifically designed for dorms and apartments. It is a consumer-focused device that is portable, easy to install, and affordable, with several use cases beyond those for apartment style residences.



**Macrotope Inc. (Princeton, Mercer County, 2.3 Employees):** Macrotope, Inc. is a biotech company that has designed and produced a candidate vaccine for SARS-CoV-2 that has demonstrated a robust and durable immune response in animal studies.

**Magneton, Inc. (Neshanic Station, Somerset County, 2.3 Employees):** Magneton is currently developing single photon detectors with sub-nanosecond timing resolution for LiDAR (Light Detection and Ranging) at extremely long distances. These detectors can create detailed 3D images of objects in varying atmospheric conditions that are many miles away with millimeter resolution. Initial applications are for use by the military with future commercial applications in aerospace, medical imaging, and automation.

**Mycsology Foods Inc. (Princeton Borough, Mercer County, 1.6 Employees):** Mycsology Foods is focused on developing a fermentation technology to produce nutrient-dense ingredients for use in food manufacturing. This project will involve the study of prototype products made with fermented legume flours.

**NanoNewron, LLC (Union, Union County, 1.7 Employees):** NanoNewron is a NJ based spin-off of Rutgers University and is developing a new approach to treat Alzheimer's Disease by carrying biologics across the blood-brain barrier (BBB) with its NewroBus technology.

**NemaGen Discoveries (Princeton, Mercer County, 3.4 Employees):** NemaGen Discoveries is an early phase biotech company focused on advancing therapies for patients suffering from allergic inflammation and mast cell-related diseases.

**NeuroTechR3 (Warren, Somerset County, 6.3 Employees):** NeuroTechR3 is a start-up health technology company specializing in the development and distribution of R3THA™, an AI-driven rehabilitation system designed to support recovery of upper extremity function following neurological injury or conditions such as stroke or cerebral palsy.

**New Wave Wash LLC (East Windsor, Mercer County, 1.9 Employees):** New Wave Wash LLC is developing an all-in-one washing machine designed to handle large volumes of laundry with enhanced efficiency.

**Next Breath Inc. (New Brunswick, Middlesex, 3.6 Employees):** Next Breath is revolutionizing pulmonary rehabilitation by leveraging machine learning (ML) to deliver precision care for underserved communities. Their focus is on improving outcomes for patients with Chronic Obstructive Pulmonary Disease (COPD) by utilizing advanced risk stratification techniques that integrate both pulmonary and mental health care.

**Novara Solutions Group LLC (Freehold, Monmouth County, 2.3 Employees):** Novara Solutions Group LLC, is developing an advanced emergency tourniquet designed for first responders, military personnel, and civilian use. This tourniquet integrates telemedicine capabilities to enable faster emergency response.

**NovoPedics Inc. (Princeton, Mercer County, 3 Employees):** NovoPedics is developing MeniscoFix, an innovative new medical device for replacement of a severely injured knee meniscus, including the meniscal body, rim, and roots. The clinical goal of MeniscoFix™ is to relieve pain and restore mobility to patients suffering from severe meniscal injuries. Pre-clinical R&D is ongoing.



**Plexymer Inc. (Plainfield, Union County, 2.3 Employees):**

Plexymer, Inc is a New Jersey startup company which is a spinout from Rutgers University. Plexymer uses artificial intelligence and lab automation to formulate proteins and design polymer materials. Plexymer is developing a fully automated pipeline to enable rapid drug formulation including the design of novel polymer excipients for these high-performance formulations. Plexymer currently operates its experiments out of incubator space at Princeton Innovation Center Biolabs.

**Plumeria Therapeutics (Plainsboro, Middlesex County, 1.1 Employees):**

The company is developing a diagnostic to predict a patient's response to a non-opioid pain drug they are developing. This will enable them to recruit and stratify the appropriate patients into the next clinical trial and to create a commercial product for use by physicians to determine if patients with chronic pain would benefit from the drug.

**Rizlab Health Inc. (Princeton, Mercer County, 4.3 Employees):**

The company is developing a handheld blood cell analyzer consisting of an electronic reader and test strip. The white blood cell analyzer is capable of quantifying WBCs with differentials (neutrophils and lymphocytes) using a finger prick of blood, which significantly helps patients with specific treatments to monitor their WBC counts. Cancer patients on chemotherapy and schizophrenia patients on Clozapine treatment, are provided with a reference for physicians to determine whether the patient is bacterial infected or viral infected and whether to prescribe antibiotics.

**Robossis Inc. (Cherry Hill, Camden County, 1.6 Employees):**

Robossis is developing the world's first surgical robotic platform for orthopedic trauma surgery. The Robossis system features a 3-arm parallel robot attached to the fractured bone and its configuration allows for motion in 6 degrees of freedom. Utilizing surgical navigation, the robot will perfectly align the fractured segments and hold the fracture stable during fixation. The results will include shorter operative time, correct limb alignment, fewer operating room personnel required, reduced reoperations, and improved clinical outcomes.

**Saatient Therapeutics Inc. (Cranford, Union County, 1.8 Employees):**

Saatient Therapeutics is developing new anti-cancer medicines. Their lead R&D project is focused on inhibiting the Serum Amyloid A protein with an antibody.

**Sensetics Inc. (Princeton, Mercer County, 1.1 Employees):**

The company is developing high resolution fabric-based tactile sensors that capture the spectrum of modalities of touch experience. They are also working on a similar platform touch experience with fabrics that recreate realistic experiences of touch.

**Shams Consulting LLC (Trenton, Mercer County, 1 Employee):**

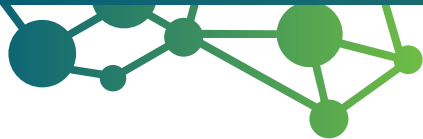
The company focuses on incubating and propelling early-stage life sciences concepts towards transformative solutions, particularly in the realm of neurological disorders.

**Six Therapeutics Inc. (Flanders, Morris County, 1.4 Employees):**

The company's product is a synthetic, short-chain DNA molecule called a CpG. This DNA molecule targets and agonizes the TLR9 receptor, a critical receptor in regulating the innate immune system. The product is being developed for wound healing applications.

**SNOChip Inc. (Plainsboro, Middlesex County, 6.4 Employees):**

The company is advancing the technology of optical metasurface by leveraging various wafer fabrication techniques from the semiconductor industry.



**Sonder Medicine Incorporated (New Brunswick, Middlesex County, 35.1 Employees):** Sonder Medicine Incorporated, DBA, Sonder Research X, is an early-stage biotechnology company performing research and development on cancer liquid biopsy diagnostics and glaucoma therapeutics.

**Spin That Resonates LLP (Hillsborough, Somerset County, 1.1 Employees):** Spin That Resonates is developing several products that are accessories designed to make biomedical imaging research easier, more reproducible, and more robust. These candidate products have been used for between 1 and 10 years already at multiple imaging research centers with great success.

**Targeron Therapeutics LLC (Princeton, Mercer County, 1.6 Employees):** Targeron Therapeutics LLC is an early-stage biotech company focused on developing multifunctional immunomodulators (biologics) that target disease sites, particularly solid tumors.

**Tendo Technologies, Inc. (Princeton, Mercer County, 9.9 Employees):** Tendo Technologies is developing MEMS-based flow sensor by developing a new architecture designed to significantly enhance the robustness and material compatibility of the existing design. This leverages MEMS fabrication techniques to produce highly durable devices.

**Turtle OncoPharma Inc. (Branchburg, Somerset County, 1.1 Employees):** The company is developing a slow, sustained, and local drug release system for the treatment of bladder cancer and infection. The system consists of an active pharmaceutical agent (doxorubicin or ciprofloxacin) and silicone tubing.

**Uno Biologics LLC (Edison, Middlesex County, 1.0 Employees):** The company is developing their proprietary technology called U1Switch, which is designed to improve the performance and safety of oligonucleotide therapeutics (OT) that is a rapidly advancing field.

**Vaneltix Pharma Inc. (New Brunswick, Middlesex County, 2.3 Employees):** Vaneltix is looking to develop a treatment for hemorrhagic cystitis of the bladder. The treatment will use a proprietary peptide to induce regeneration of the bladder epithelial wall repairing damage caused by trauma, radiation induced cystitis, chemical induced cystitis or resulting from severe interstitial cystitis.

**Vitruviae Inc. (Nutley, Essex County, 4.9 Employees):** Vitruviae is developing a proprietary approach that targets sugars and lipids uniquely present on cancer cells. These non-mutating targets offer a promising pathway for effectively eradicating cancer.

**Zena Therapeutics Inc. (North Brunswick, Middlesex, 2.3 Employees):** Zena Therapeutics is a drug discovery company, spun-out of Rutgers University, designing new medications for mental health and addiction by improving safety profiles. Currently they are focusing on acute anxiolytic compounds that do not increase the risk of overdose if taken with other central nervous system depressing substances such as opioids and alcohol.

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## Clean Tech R&D Voucher Company Profiles

**Boomerang Aero Ventures LLC (Lumberton, Morris County, 1.4 Employees):** Boomerang Aero Ventures brings together cutting-edge technologies, aviation industry experience and innovative solutions to create the next generation of aerospace.



**Cecilia Energy Inc. (Newark, Essex County, 5.7 Employees):**

Cecilia Energy is a NASA-backed start-up commercializing a novel zero-emissions waste plastic to hydrogen and carbon nanotube technology. Their microwave-assisted reactor unit is at pilot-scale and they are actively doing scaled-up real-life operations.

**Clean Green Recycling (Morristown, Morris County, 1**

**Employee):** Clean Green Electronic Recycling is a safe, environmentally friendly and certified ewaste recycling company which uses accredited electronic waste recyclers, ones that are governed by ISO14001 standards.

**Coherent Photonics LLC (Plainsboro, Essex County, 1**

**Employee):** Coherent Photonics, LLC has extensive expertise in the entire cycle of nano-photonics, diffractive and meta-optics development, from conceptual definition to detailed design, tolerance analysis, characterization and fabrication support. The company is developing lightweight photonics that will result in improved energy efficiency in a variety of products and application areas, such as wearables, drones, and AI datacenters.

**Equation USA LLC (Clifton, Passaic County, 1.1 Employees):**

Equation USA minimizes emissions through green chemistry, sustainable sourcing, and eco-friendly processing in health and wellness formulations.

**EV Edison (Kearny, Hudson County, 2.3 Employees):** EV

Edison is a developer and a provider of high-power electric vehicle fleet charging solutions for Class 4 - 8 electric trucks and a leading consultant on fleet electrification.

**HempNTech Incorporated (Newfoundland, Morris County, 1.3 Employees):**

HempNTech (HNT) is developing a sustainable, high-performance hemp-based timber substitute (HempTimber). Partnering with AMMI, they will research advanced resin-hemp formulations and scalable production methods.

**Intelligent Material Solutions, Inc. (Princeton, Mercer County, 10.4**

**Employees):** The company focuses on advancing sustainability by developing rare-earth crystal tracers embedded in plastics and metals for real-time identification of product composition and recycled content. Intelligent Materials Solutions (IMS) develops authentication/identification technologies and specialty applications that leverage their precision-engineered crystals, to meet challenging customer needs.

**Krell Technologies (Neptune City, Monmouth County, 9.1 Employees):** Krell

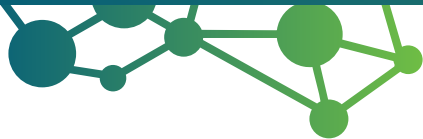
Technologies is developing advanced polishing and inspection systems for the photonic and fiber optic industries. Their cutting-edge product line integrates unique processing features and is configurable for all manufacturing, field and research applications.

**Krypton Warriors Inc. (Montville, Morris County, 1 Employee):** Krypton

Warriors Inc is developing a robot for waste removal suitable for trash collection.

**HiT Nano Inc. (Bordentown, Burlington County, 6.9 Employees):** HiT Nano

Inc. develops next generation low cost and high performance Lithium-ion batteries and energy storage materials using sustainable manufacturing technologies such as MACHT (Micro-Aerosol Controlled High Temperature processing).



**Mallika Ashwin Maya Corporation (Bridgewater, Somerset County, 2.3 Employees):** M.A.M. Inc. serves clients in the high frequency power electronics space with energy efficient systems, components, and solutions. They focus on Micro grid demonstration using the Vanadium Flow Battery as Long duration energy storage system (LDES) in the network.

**Materium Technologies LLC (Summit, Union County, 1.7 Employees):** Materium Technologies is rapidly evolving and growing, refining our advanced machine learning models to optimize material selection for clean energy applications.

**NanoSepex Inc. (Bridgewater, Somerset County, 2.4 Employees):** NanoSepex is developing cutting-edge membrane separation technologies designed to tackle critical challenges in solvent recovery and environmental remediation. Much of the low concentration solvent wastes from pharmaceutical, paints, and petrochemical companies in New Jersey are incinerated leading to significant CO<sub>2</sub> emissions.

**Nascent Materials Inc. (Short Hills, Essex County, 2.3 Employees):** Nascent Materials is a battery cathode manufacturing startup company part of the accelerator program HAX, based in Newark, NJ. Nascent is scaling a portfolio of durable, low-cost, and safe cathode chemistries to support the EV, grid storage, and industrial markets.

**Pollux Technologies LLC DBA Lumiaq (East Brunswick, Middlesex County, 5.2 Employees):** Lumiaq is developing an accurate air filter monitoring technology using optical sensors based on two issued US patents 10,864,471 and 11,235,272. The technology will contribute to reducing waste, increasing energy efficiency, and better public health by increasing indoor air quality. The technology will significantly reduce filter waste by an estimated 151 million filters per year.

**Queens Carbon Inc. (Pine Brook, Morris County, 6.3 Employees):** Queens Carbon's patented approach leverages hydrothermal technology to reduce the temperature of carbonate mineral processing to less than 1000 F compared with typical calcination temperatures of greater than 1800 F. Furthermore, this technology is also capable of producing carbon-neutral cement at less than 1000 F, which is substantially lower than typical cement production temperatures of over 2700 F. Ultimately, this temperature reduction enables the use of renewable energy technologies and decreases the cost requirements for carbon emissions avoidance and capture. This technology will enable billions-of-tons-scale decarbonization and defossilization of the chemical industry without compromising on cost or product performance.

**Still Bright, Inc. (Newark, Essex County, 7.1 Employees):** The company is powering a faster, cleaner, and more abundant copper supply. Their R&D is focused on offering a sustainable alternative to smelting, the extraction method used to produce ~70% of copper globally.

**Swind Power LLC (Princeton Junction, Mercer County, 1 Employee):** SWIND is developing a new innovative concept of Vertical Axis Turbine (VAT). Their technology takes turbines to a new level by analyzing existing rotor designs and harvesting fluid (Wind, Water etc.) energy. SWIND embodies inspirations from drag driven principals utilizing sail-type configuration.

**Zolx, Inc. (East Brunswick, Middlesex County, 1.1 Employees):** Zolx is transforming the world's emissions into valuable, sustainable products that actively reduce the collective carbon footprint. By harnessing the power of biotechnology, fermentation, and green chemistry, they convert aquatic biomass into high-value materials—ranging from food to renewable biobased chemicals and biofuels.



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## SBIR/STTR Direct Financial Assistance Company Profiles

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### ***Direct Funding (\$25K)***

**AuresTech Incorporated (Branchburg, Somerset County, 2.9 Employees):** AuresTech specializes in cutting-edge research and development in the fields of wireless communication and navigation technologies. With a focus on advancing high-performance wireless networks, the company explores innovative solutions for seamless connectivity, efficient data transmission, and enhanced signal reliability.

**Couragene Inc. (Edison, Middlesex County, 5.7 Employees):** Couragene's STEP (Stimuli-responsive Traceless Engineering Platform) technology has demonstrated great potential to overcome the delivery hurdles for treatment of various diseases, including neurogenetic disorders.

**Coherent Photonics LLC (Plainsboro, Essex County, 1 Employee):** Coherent Photonics, LLC has extensive expertise in the entire cycle of nano-photonics. The company is developing lightweight photonics that will result in improved energy efficiency in a variety of products and application areas, such as wearables, drones, and AI datacenters.

**Impact Business Information Solutions, Inc. (Princeton, Mercer County, 7.1 Employees):** The company develops software solutions for life sciences and health sciences, focusing primarily on medical imaging and AI enablement and operationalization.

**Jason Rahimzadeh DBA CyroScope Medical (Wantage, Sussex County, 2.0 Employees):** CyroScope medical is developing a cryotherapeutic medical device for the treatment of esophageal disease. CyroScope Medical's patented single-use ablation device allows the physician to trans-nasally pass into the esophagus, enabling unседated cryoablation. Cryoablation is unique in that the therapy has an analgesic effect on tissues and reduces reliance on narcotics post-procedure, compared to Radio Frequency Ablation (RFA).

**Kathera Bioscience Inc. (Union, Union County, 5.5 Employees):** Kathera Bioscience, Inc. is a biotech startup company developing much needed, novel, broad spectrum small molecule antifungal drugs against new enzyme targets for which there are not currently FDA or EMA approved drugs. The company currently has two antifungal programs in different stages of preclinical Research & Development (R&D).

**Lactiga US, Inc. (North Brunswick, Middlesex County, 2.3 Employees):** Lactiga is a biotechnology company developing novel mucosal antibodies derived from human breastmilk to improve the lives of vulnerable, immunocompromised populations. The company specializes in secretory IgA (sIgA)-based therapeutics, utilizing proprietary technologies to develop targeted treatments for infectious and inflammatory diseases.

**Myracle Therapeutics, Inc. (East Hanover, Morris County, 1.6 Employees):** Myracle Therapeutics is a preclinical stage company developing small molecules against novel targets in adipocytes to treat obesity and metabolic related diseases. Our lead program is a genetically validated target that regulates intracellular signaling resulting in metabolic reprogramming of adipose for durable weight loss and metabolic health.



**NeuroPair Inc. (Princeton, Mercer County, 2.1 Employees):** NeuroPair is an early-stage medical device company aiming to regenerate and re-connect neurons after spinal cord injury. It uses an injectable gel formulation that includes magnetically aligning nanoparticles to create a fiber scaffold in the injury site that supports neuronal growth while the directionally aligned fibers guide the regrowth.

**NanoSepex Inc. (Newark, Essex County, 2.4 Employees):** NanoSepex Inc. is a NJ based small business focusing on research and development of nanomaterial modified membranes and filtration systems for applications in solvent recovery from dilute waste solutions, removal of solvent contaminants from contaminated Superfund sites and zero liquid discharge.

**Plexymer Inc. (Plainfield, Union County, 2.3 Employees):** Plexymer, Inc is a New Jersey startup company which is a spinout from Rutgers University. Plexymer uses artificial intelligence and lab automation to formulate proteins and design polymer materials. Plexymer is developing a fully automated pipeline to enable rapid drug formulation including the design of novel polymer excipients for these high-performance formulations. Plexymer currently operates its experiments out of incubator space at Princeton Innovation Center Biolabs.

**Pumpkin Baby Inc. (Lawrenceville, Mercer County, 6.7 Employees):** PumpKinBaby is a Princeton University Spin-Out revolutionizing breastmilk research and developing easy to use solutions for pumping parents.

**Ricovr Healthcare Inc. (Princeton, Mercer County, 6.9 Employees):** Ricovr is developing a point-of-care (POC) test for detecting THC in saliva for determination of recent cannabis use. This test employs a novel Plasmonic fiber-optic absorbance biosensor (P-FAB) and gold nanoparticles conjugated to anti-THC antibody (Ab-AuNP) to perform a rapid competitive immunoassay.

## **Bridge Funding (\$50K)**

**AuresTech Inc. (Branchburg, Somerset County, 2 Employees):** AuresTech develops advanced systems that provide secure, resilient communication and navigation technologies for the DoD. It has been awarded and executed STTR Phase 1 for the Army to develop a revolutionary way for existing communication systems to use the same spectrum used by other users without interfering with them.

**Academic Web Pages Inc. (Beach Haven, Ocean County, 3.4 Employees):** The company is a research-backed SaaS platform that manages and scales evidence-based mentoring and career development programs for postsecondary institutions, nonprofits, and workforce organizations.

**Fria, Inc. (Avenel, Middlesex County, 1.4 Employees):** Fria Inc. is a revolutionizing, fem-tech innovation that creates wearable cooling accessories to alleviate the discomfort of hot flashes and overheating.

**Fuceltech Inc. (Princeton Junction, Mercer County, 6.9 Employees):** Fuceltech DBA Princeton Innotech does research on a new type of diode laser for atomic sensors using their basic approach of Vertical Cavity Surface Emitting Lasers.

**High Throughput Biology Inc. (Summit, Union County, 2.3 Employees):** High Throughput Biology Inc. has developed a next-generation authentication technology to put a stop to the proliferation of cyber crimes including ransomware attacks. With the superior synthetic DNA-based, three-factor authentication solution, they enable businesses and organizations to achieve unprecedented cybersecurity.



**Inaedis, Inc. (Princeton, Mercer County, 3.2 Employees):** Inaedis Inc., a pioneering Princeton University spin-out, is revolutionizing vaccine and biologic drug stability and cold chain logistics. Their mission is to deliver health via high-quality powdered, room-temperature stable vaccines and biological drugs.

**Magneton, Inc. (Branchburg, Somerset County, 1.1 Employees):** Magneton is a developer and manufacturer of single photon avalanche detectors (SPADs) which are highly sensitive semiconductor devices capable of sensing light at levels as minute as a single photon.

**NanoNewron LLC (Union, Union County, 1.1 Employees):** NanoNewron, a NJ based spin-off of Rutgers University, is developing a new approach to treat Alzheimer's Disease by carrying biologics across the blood-brain barrier with its NewroBus technology.

**NovoPedics Inc. (Princeton, Mercer County, 2.9 Employees):** NovoPedics is a medical device start-up company developing MeniscoFix™, a single use medical device. It is designed to mimic the architecture and biomechanical properties of the native meniscus, serve as a load sharing device following implantation, and gradually resorb and support development of functional neo-meniscus tissue.

**Owlfly LLC (Kingwood Township, Hunterdon County, 2.6 Employees):** Owlfly's mission is to develop cutting-edge sustainable technologies. They are currently working to develop a new type of safe, effective, and affordable thermal insulation for buildings.

**Pollux Technologies, LLC (Piscataway, Middlesex County, 4.0 Employees):** Pollux Technologies (D/B/A Lumiaq) located at 35 Berrue Circle, Piscataway, NJ 08854 is an early-stage startup company developing accurate air filter monitoring technology using optical sensors based on two issued US patents (10,864,471 and 11,235,272). The technology will contribute to reducing waste and cleaning the environment.

**SNOChip (Plainsboro, Middlesex County, 6.4 Employees):** SNOChip Inc designs and makes micro- and nano-optics based on optical metasurface technology. Spectronn (Red Bank, Monmouth County, 1.1 Employees) Spectronn is engaged in dual-use trusted multimodal AI for geospatial intelligence R&D and product development.

**ZSX Medical (Moorestown, Burlington County, 2.9 Employees):** ZSX Medical is a clinical-stage medical device company located in Moorestown, New Jersey that is developing Zip-stitch®, a surgical closure platform designed specifically for closing internal surgical incisions in laparoscopic hysterectomy. Zip-stitch consists of a series of attachable clips and a reusable stainless-steel applicator.



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