



one north carolina
Small Business Program

**FISCAL YEAR 2024 REPORT ON THE COMMITMENT,
DISBURSEMENT, AND USE OF FUNDS**

As Required by § 143B-437.83 of the
North Carolina General Statutes

Citation of Law or Resolution: S.L. 2009-451
Section Number: Section 14.5(c)
Due: September 1, 2024

Receiving Entities:

The Joint Legislative Commission on Governmental Operations

The Chairs of the House of Representatives and Senate Finance Committees

The Chairs of the House of Representatives and Senate Appropriations Committees

The Fiscal Research Division of the General Assembly

Submitting Entity:

The Board of Science, Technology & Innovation of the North Carolina Department of
Commerce

BACKGROUND

The federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs, referred to as *America's Seed Fund*, grant competitive awards to small businesses for Phase I proof-of-principle research and development (R&D) and Phase II early-stage product development.

The SBIR program is a highly competitive, merit-based award system designed to stimulate technological innovation, strengthen the role of small businesses in meeting federal R&D needs, and increase private sector commercialization of innovations derived from federal R&D. Enacted in 1982 as part of the Small Business Innovation Development Act (and then reauthorized multiple times since then), the SBIR program requires federal agencies with more than \$100 million in extramural R&D to allocate a percentage of their budgets exclusively for small businesses. This set-aside began in 1983 at 2% and is currently 3.2%, resulting in the availability of approximately \$3.36 billion in fiscal year 2021¹ to small businesses R&D. Participating agencies include: Department of Defense (DoD); Department of Health and Human Services (DHHS); Department of Energy (DOE); Department of Agriculture (USDA); National Science Foundation (NSF); National Aeronautics and Space Administration (NASA); Department of Homeland Security (DHS); Department of Transportation (DOT); Environmental Protection Agency (EPA); Department of Education (DE); and Department of Commerce (DOC) (see *chart showing One North Carolina Small Business Program Awards by Phase I SBIR/STTR Granting Agency, FY 2006-2024, on page 6*).

The STTR program is like the SBIR program, but its unique feature is its *requirement* that the small business work jointly with a non-profit research institution. A minimum of 40% of the work must be performed by the small business and a minimum of 30% by the non-profit research institution. Such institutions include federally funded research and development centers (FFRDCs), universities, university-affiliated hospitals, and other non-profits. Established by Title II of the Small Business Research and Development Enhancement Act of 1992, Public Law 102-564, the STTR program requires federal agencies with more than \$1 billion of extramural R&D to reserve 0.45% of their budgets for R&D small businesses and their partners. This set-aside currently results in the availability of approximately \$523 million for fiscal year 2021.¹

The One North Carolina Small Business Program (hereinafter "the Program")—the subject of this report—entails two State-funded programs: the **SBIR/STTR Phase I Matching Funds Program** and the **SBIR/STTR Phase I Incentive Funds Program**.² North Carolina is among a handful of innovative states that have seen the value of leveraging federal SBIR/STTR funds with State support of this type.

This report provides FY 2024 (7/1/2023-6/30/2024) commitment and disbursement information for both the Matching Funds Program and the Incentive Funds Program. Information for previous fiscal years is available in previously submitted year-end reports.

PROGRAM IMPACT

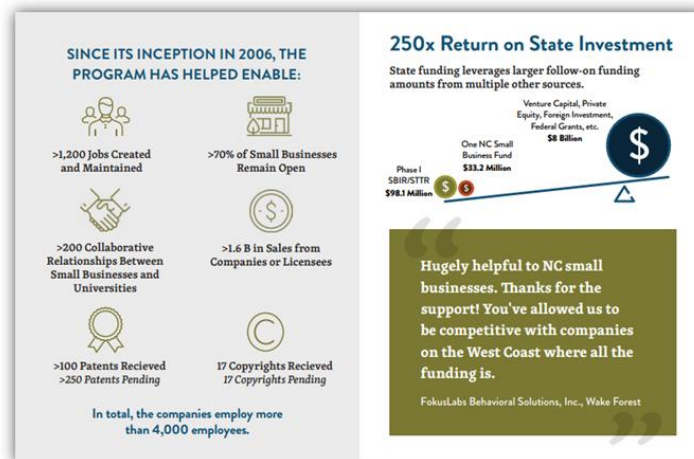
¹ 2021 is the latest year for which comprehensive data are available.

² Descriptions of both programs are provided later in this report on pages 5, and 14, respectively.

Between FY 2006 and FY 2024, 841 grants, totaling more than \$37.8 million, were issued to North Carolina small businesses.³ As measured in a comprehensive evaluation of the Program in 2023,⁴ this support has helped enable:

- The creation and retention of nearly 1,200 private sector jobs statewide – more to come as more companies benefit and grow. Together, the small businesses employ more than 4,000 employees.
- 473 small businesses [as of FY2024] to develop innovative new technologies, most of which have been commercialized, including biotechnologies, nanotechnologies, medical technologies, computer software, military/defense technologies, agricultural technologies, pharmaceuticals, textiles, and other high-tech applications.
- More than 70 percent of the small businesses to remain in operation.
- The small businesses to attract more than \$8 billion in external investment, including follow-on federal funds.
- 60 percent of North Carolina matching grant winners to win Phase II federal grant awards, each with a considerably larger average value of \$1 million (nationally, 54 percent of Phase I award winners graduate to Phase II awards).
- The development of hundreds of items of intellectual property (e.g., patents, copyrights).
- The small businesses to produce more than \$1.6 billion in sales or licenses.
- Hundreds of significant technology/business-development collaborative relationships between North Carolina universities & businesses.

Most of these companies are small and still growing, albeit rapidly. Thus, these impacts will spur expansion.



TESTIMONIALS

³ This includes 261 Incentive grants, totaling \$1,509,851.90, and 580 Matching grants, totaling \$36,384,331.48. Information on grants in previous years is available in previously submitted year-end reports.

⁴ The Board of Science, Technology & Innovation conducts a comprehensive, in-depth evaluation of the Program every two years. The latest evaluation of this type was conducted in 2023.

"The Phase I Matching funds program is extremely helpful in supporting the work that is needed to bring early-stage technologies to market. We find the application process and reporting requirements to be reasonable. The Matching Funds [Program] is helpful in covering costs that exceed Phase I funding or are otherwise unallowable on SBIR federal program."

~ AxNano, LLC, Greensboro, NC

"This Matching Program opened doors to high-quality research facilities, top-notch team members, and partnerships that certainly would have been challenging to attain on our own. The Matching Grant Program has been key to our Phase I and pending grant, R&D, and commercialization success."

~ Impulse Wellness, LLC, Raleigh, NC

"Supported successful Phase I demonstration and helped with Phase II proposal research. We have a team in place from the Phase I prepared to do the work and are excited about the possibility of scaling up this team to as many as 5 FTEs in NC."

~ Vigilant Cyber Systems, Mt. Airy, NC

"We appreciate this program, which has been crucial in bridging the gap between Phase I and Phase II. We described the program to a small company in Pennsylvania, who stated they will lobby for a similar program in their state."

~ Applied Research Transformation, PLLC, RTP, NC

"The Incentive Program award is an essential part of our company's continued progress. Not only does it add to the development and productization of our existing products, both the household countertop and refrigeration OEM licensing, but it allows us to expand into other areas using the same base technology. Most recently, this refrigerator implementation for fresh produce has also been proposed for transfusion blood storage in refrigerators, which has drawn significant interest from the military. Just knowing that this program exists allows us to move forward on future grant submissions, thereby expanding our business."

~ GreenLifeTech, Banner Elk, NC

MATCHING FUNDS PROGRAM

Overview

The North Carolina SBIR/STTR Phase I Matching Funds Program awards matching funds to North Carolina-based small businesses that have received a federal SBIR or STTR Program Phase I award. The North Carolina Board of Science, Technology & Innovation, a division of the North Carolina Department of Commerce, administers the Program.

Under the Program's authorizing provisions, awards can be made to eligible businesses for up to 100 percent of a company's federal Phase I SBIR/STTR Program award, up to a maximum amount of \$200,000, until funds available for the Program have been exhausted.⁵ Applicants who receive Matching Awards receive 75 percent (Stage 1) of the award amount upon receipt of an SBIR/STTR Phase I award and receive the remaining 25 percent (Stage 2) of the award if their Phase I report is accepted by the funding agency and they submit a related Phase II application to the funding agency. Federal Phase II SBIR/STTR awards often exceed \$1 million.

Purpose

The purpose of the Matching Program is to foster job creation and economic development in North Carolina by increasing the competitive position of North Carolina small businesses in attracting SBIR and STTR grant funding, and to provide an incentive for Phase I award-winning firms to participate in the more substantial Phase II program. The goals of the Matching Program are to:

1. Increase the amount of federal research dollars received by North Carolina small businesses.
2. Increase the intensity of the research conducted under Phase I, making North Carolina small businesses more competitive for Phase II funds.
3. Help North Carolina businesses bridge the funding gap period between the final Phase I payment and the first Phase II payment in the federal SBIR/STTR Program.
4. Encourage the establishment and growth of high-quality, advanced technology companies in the State of North Carolina.

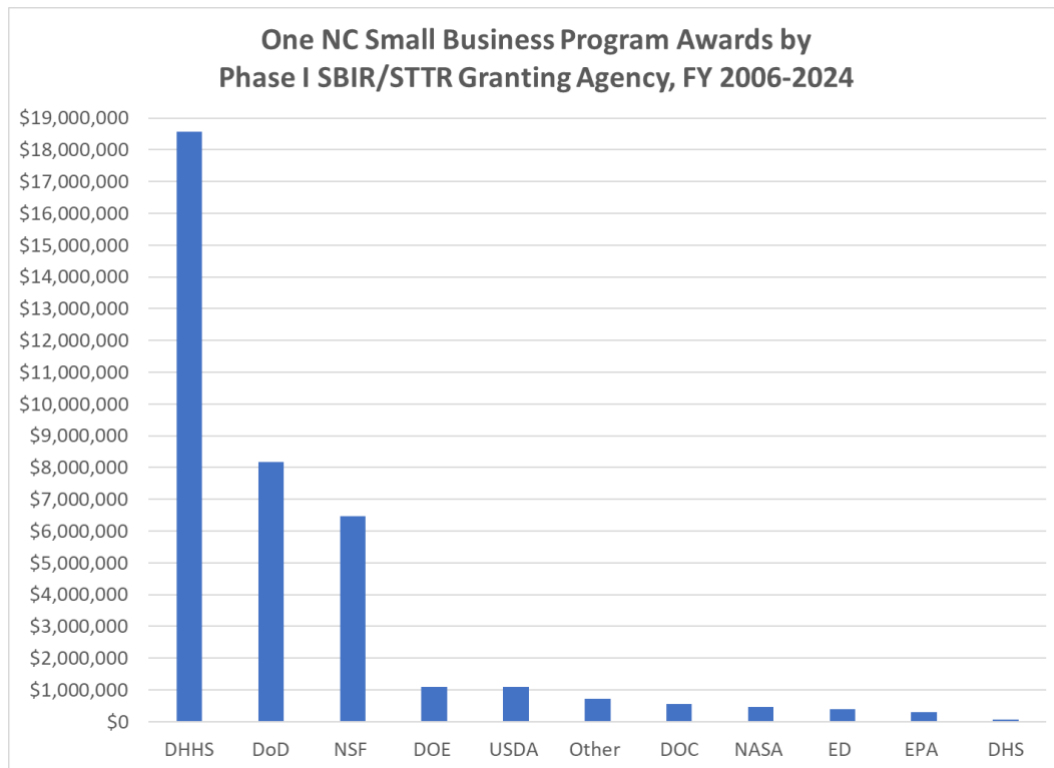
MATCHING FUNDS PROGRAM (CONTINUED)

FY 2024 Summary

⁵ Due to funding limitations, the FY 2024 solicitation awards were capped at 50 percent of a company's federal Phase I SBIR/STTR Program award, up to a maximum amount of \$60,000.

- The award ceiling was \$60,000. In addition, businesses located in Tier 3 areas were eligible only if they had not received more than one previous grant from the One N.C. Small Business Matching Program and had less than six full-time employees. Companies in Tier 1 and 2 counties were not subject to the same eligibility restrictions.
- Restrictions imposed only for applicants from Tier 3 counties reinforce the Board's commitment to a broad reach that includes rural counties throughout the State.
- The One N.C. Small Business Program received \$2,000,000 in direct appropriations for the Matching Funds Program.

The Program awarded 35 Matching Grants, totaling \$2,011,840.72 in FY 2024, obligating 101% of its appropriation. Additional funding came from previous awards for which grantees were unable to meet the requirements to receive their Stage 2 disbursement. The unused Stage 2 funding is carried forward to support subsequent solicitations.



Note: The award amount by agency is highly correlated with the size of each agency's research and development (R&D) budget and the R&D strengths of a state's small businesses.

TABLE 1: FY 2024 One North Carolina Small Business Matching Funds Program Grantees and Disbursements

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Advanced Materials Manufacturing	Nickel-Based Composite Metal Foam (CMF) in Nuclear Energy Applications	Raleigh	Wake	\$60,000	2024	\$45,000
Aegis Power Systems. Inc.	Bi-Directional Converter 600VDC to 28VDC	Murphy	Cherokee	\$75,000	2023	\$18,750
Amissa, Inc.	A Multi-faceted Digital Health Platform to Advance Alzheimer's Disease Patient Monitoring, Safety, Care, and Research	Charlotte	Mecklenburg	\$75,000	2022	\$18,750
Anuma Aerospace Corporation	Persistently Elevated Gas-free Aerostatic Sensor Utility System (PEGASUS)	Raleigh	Wake	\$60,000	2024	\$60,000
Applied Research Transformation, PLLC	Sentinel 4.0: Measurement and Control System for 3DCP Interlayer Bond Strength	Durham	Durham	\$49,984.72	2024	\$49,984.72
Archaius, Inc.	APNT for Extended Reach	Durham	Durham	\$37,050	2024	\$27,787.50
Artiam Bio, Inc.	Therapy for Alcohol Use Disorder	Morrisville	Wake	\$60,000	2024	\$45,000

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
AxNano, LLC	Development of a Smart PFAS-Collector for High-Throughput PFAS Detection	Greensboro	Guilford	\$75,000	2022	\$18,750
Benanova, Inc.	Next-Gen Biocontrol for Efficient Meloidogyne Enterolobii Management	Cary	Wake	\$60,000	2024	\$45,000
BioKier, Inc.	Development of an oral therapeutic to mimic the anti-diabetic effects of gastric bypass surgery	Chapel Hill	Orange	\$60,000	2024	\$0.00
Boundless Science, LLC	Extra-Corporeal Oxygenator with Minimal Blood Surface Contact	Durham	Orange	\$60,000	2024	\$45,000
Boyte Group, Inc. (Active Defender)	Active Defender - Advanced Situational Awareness and Communication for Crisis Management in Schools	Carthage	Moore	\$37,418	2024	\$28,063.50
Callahan-Young, LLC (Jigsawdio)	Jigsawdio: An AudioVisual Jigsaw Puzzle for People with Alzheimer's Disease and Alzheimer's-Disease-Related Dementias	Raleigh	Wake	\$75,000	2023	\$18,750
Catalytic and Redox Solutions LLC	Tailored Oxide-Molten Salt (OMS) Composites for High-Operating-Temperature Thermal Energy Storage	Cary	Wake	\$44,982	2023	\$11,245.50
Cervu	Intravaginal device for the treatment of pelvic pain and dyspareunia in female cancer survivors	Cary	Wake	\$60,000	2024	\$45,000

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Clue Genetics, Inc.	ClueGen: a fungi-focused metagenomics platform for natural product discovery	Hillsborough	Orange	\$60,000	2024	\$0.00
Converter Source, LLC	Robust Linear Motor Controller Proof-of-Principle Hardware Demonstration	Asheville	Buncombe	\$60,000	2024	\$60,000
Coprata, Inc.	Smart Toilet with Artificial Intelligence for Remote Management of Inflammatory Bowel Disease	Durham	Durham	\$75,000	2022	\$18,750
Delgen Biosciences, Inc.	Novel Polymer-antibody Conjugates as Long-acting Therapeutics for Ocular Diseases	Chapel Hill	Orange	\$60,000	2024	\$45,000
DuraVax	STTR Phase I: Development of Thermostable Formulations of mRNA Vaccines and Therapeutics	Wilmington	New Hanover	\$60,000	2024	\$45,000
Enfuego Therapeutics, Inc.	Ligand-Directed KRAS G12V Mutant-Specific Therapeutics	Pittsboro	Wake	\$60,000	2024	\$45,000
Epigenos Biosciences, Inc.	Ligand-Directed KRAS G12V Mutant-Specific Therapeutics	Greenville	Pitt	\$69,982	2022	\$17,495.50
E-Sentience, LLC	Quantification of biomarkers in sweat with a wearable electrochemical platform	Durham	Durham	\$74,878	2023	\$56,158.50

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Fathom Science, LLC	Developing a Novel AI/ML Approach for High-efficiency, High-fidelity Marine Wave Energy Characterization and Assessment for Powering the Blue Economy	Raleigh	Wake	\$60,000	2024	\$45,000
Freescale, LLC	Development and Analysis of Functional NanoInks for Printed Neuromorphic Electronics and Smart Sensors	Cary	Wake	\$60,000	2024	\$45,000
Glycan Therapeutics Corporation	Development of heparan sulfate-based therapeutics to treat inflammatory diseases	Raleigh	Wake	\$75,000	2022	\$18,750
GreenLifeTech Corporation	Novel Method for Produce Preservation and Sterilization in Modern Refrigerators	Banner Elk	Avery	\$50,000	2024	\$37,500
H3PElvic Therapy Systems	Targeted Thermal Modulation with Smart Radiometric Monitoring for Effective and Long-Lasting Opioid-Free Pelvic Pain Relief	Lewisville	Forsyth	\$60,000	2024	\$45,000
Hoofprint Biome, Inc.	Bioengineering probiotic yeast to mitigate methane emissions from cattle	Raleigh	Wake	\$60,000	2024	\$0.00
Impulse Wellness, LLC	IW - Bluetooth Electromyography-based Stroke Therapeutic (BEST): Shifting the Paradigm with Biofeedback-Driven Home Therapy	Raleigh	Wake	\$49,999	2022	\$12,499.75
Insightfinder, Inc.	Artificial Intelligence (AI) System for Enterprise Software Incident Management	Raleigh	Wake	\$75,000	2022	18,750

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
InSoma Bio, Inc.	An Injectable Protein Matrix to Enhance the Stability of Autologous Fat Grafts	Durham	Durham	\$75,000	2022	\$18,750
Isimcha, LLC	ISimcha Technology Platform for Recruiting a Diverse Population of Older Adults into Clinical Trials	Durham	Durham	\$60,000	2024	\$45,000
LIRA, Inc.	Video-to-speech software application to provide real-time, noninvasive, natural voice restoration for voiceless individuals	Chapel Hill	Orange	\$75,000	2023	\$18,750
Mammae Biosciences, Inc. (Botany AI)	Development of an enzymatic method to produce compounds found in human milk at commercial scale	Raleigh	Wake	\$60,000	2024	\$45,000
METIS Health Analytics, LLC	Quality and Safety Monitoring of Clinical Computed Tomography Practice	Chapel Hill	Orange	\$75,000	2022	\$18,750
Mimetics, LLC	Applying Dynamical Systems Theory to Improve Analysis of Time Series Transcriptional Data from Bioproduction Processes	Chapel Hill	Orange	\$60,000	2024	\$45,000
Minerva Lithium, LLC	Point-Of-Use Nano Mosaic Filter Technology for Lithium	Greensboro	Guilford	\$75,000	2022	\$18,750
MithrilAI Corp.	SaiFE: Trusted AI with Hardware Security Enforcement	Raleigh	Wake	\$60,000	2024	\$0.00

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Moires Instruments	A Radio Frequency Quadrupole Stark Decelerator to Identify Isomers and Conformers and Measure their Effective Dipole Moments	Elon	Alamance	\$75,000	2023	\$56,250
Multi3D, Inc.	Highly Conductive Polymer Composites Enable Next-Generation Electronics Manufacturing	Middlesex	Nash	\$60,000	2024	\$45,000
NabGen, Inc.	Development of an Effective Strategy to Block Nab Activity for AAV Brain Transduction	Durham	Durham	\$69,820	2023	\$52,365
NeuroGT, Inc.	Protein depleting pre-existing antibodies for viral gene therapy	Chapel Hill	Orange	\$60,000	2024	\$45,000
Oncotrap, Inc.	An Aptamer-directed IgG1-Fc Drug Conjugate (AFC) for Treating Pancreatic Cancer	Chapel Hill	Orange	\$60,000	2024	\$45,000
Oncurie, Inc.	Self-assembling molecular brachytherapy for treatment of metastatic cancer	Raleigh	Wake	\$75,000	2022	\$18,750
Optera, LLC	NSF STTR Phase I: Investigation and Optimization of a Novel, Pheromone-based Tool for Measuring Honey bee Colony Pest and Disease Resistance	Greensboro	Guilford	\$75,000	2022	\$18,750
PolyPV, LLC	STTR Phase I: Solution processed flexible semitransparent organic photovoltaic (OPV) modules for greenhouses	Cary	Wake	\$75,000	2023	\$56,250

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Predictive, LLC	STopTox: A comprehensive in silico platform for predicting systemic and topical toxicity	Raleigh	Wake	\$73,851	2022	\$18,462.75
Raglan, LLC	Battery Optimization for Air Force Ground Electric Vehicles: FX23D-TCO1-0065	Wilmington	New Hanover	\$24,985.50	2023	\$24,985.50
Raglan, LLC	Raglan Open Architecture ECU for USSOCOM FOSOV NSCV	Wilmington	New Hanover	\$60,000	2024	\$0.00
Resolute, Inc.	Localized and Sustained Antibiotic Delivery For Treatment of Periprosthetic Joint Infection (PJI) in Arthroplasty Patients	Durham	Durham	\$75,000	2022	\$18,750
Secmation, LLC	Vehicle Root of Trust - Cryptography and Cybersecurity	Cary	Wake	\$59,181.03	2022	\$14,795.26
Syzygy Optics, Inc.	Curved Volume Phase Holographic Gratings: Efficient and High-Resolution Hyperspectral Imaging	Chapel Hill	Orange	\$60,000	2024	\$45,000
Teen Health Research, Inc.	Improving parent-adolescent communication about sexual and reproductive health	Raleigh	Wake	\$60,000	2024	\$45,000
Teleswivel, LLC	Replacing the Pintle/Lunette: Autonomous Vehicle Towing	Durham	Durham	\$60,000	2024	0.00

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Theia Imaging	A Widefield, Handheld OCT system for Patients who are Unable to Cooperate	Durham	Durham	\$75,000	2022	\$18,750
Third Floor Materials, Inc.	Epsilon-near-zero tunneling diodes for room-temperature IR detectors and light sources	Durham	Durham	\$37,414.57	2022	\$9,353.64
Transchromix	Novel therapeutic intervention of early-stage T1D	Chapel Hill	Orange	\$60,000	2024	\$45,000
United Protective Technologies, LLC	Innovative Manufacturing/Materials in Hypersonic Thermal Protection Systems	Locust	Stanly	\$69,929	2023	\$52,446.75
United Protective Technologies, LLC	Alternate Lubrication Mechanisms for Small UAV and Attritable Weapon Systems	Locust	Stanly	\$60,000	2024	\$45,000
Venti, LLC	Counter Terrorism CBRN Detection	New Bern	Craven	\$37,388	2024	\$28,041
Vigilant Cyber Systems, Inc.	Industrial Hygienist Assessment Tool	Mount Airy	Surry	\$75,000	2022	\$18,750
Vigilant Cyber Systems, Inc.	IA DEVSECOPS	Mount Airy	Surry	\$73,470.50	2023	\$17,347.25

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Vigilant Cyber Systems, Inc.	Automated Mission Readiness Assessment of Shipboard Systems (AMRASS)	Mount Airy	Surry	\$60,000	2024	\$45,000
Total Amount Awarded for FY2024 Matching Program (35 Recipients)						\$2,011,840.72
Total Matching Program Funds Disbursed in FY2024						\$1,966,032.12

NOTE: Committed and disbursed amounts in the table above differ because One North Carolina Small Business Matching Funds Program awards are disbursed in two payments, as explained on page 5 of this report. The second disbursement (final 25% of award) most often occurs in a different fiscal year from the year originally obligated.

INCENTIVE FUNDS PROGRAM

Overview

The North Carolina SBIR/STTR Phase I Incentive Funds Program reimburses qualified North Carolina businesses for a portion of the costs incurred in preparing and submitting Phase I proposals for the U.S. Government's SBIR and STTR Programs. Under the Incentive Funds Program, the State issues qualified applicants a grant for approved Phase I Proposal preparation costs, up to \$12,000. These grants are awarded to qualified applicants on a first-come, first-served basis, up to the limits of available funding. The North Carolina Board of Science, Technology & Innovation, a division of the North Carolina Department of Commerce, administers the Program.

Purpose

The purpose of the Incentive Program is to foster job creation and economic development in North Carolina by encouraging North Carolina small businesses to compete for federal SBIR and STTR awards. The goal of the Incentive Program is to increase the number of North Carolina applications for federal SBIR and STTR Phase I awards.

FY 2024 Summary

- The One North Carolina Small Business Program received \$2,000,000 in direct appropriations; all was applied to its Matching Program. The Incentive Funds Program was funded with a portion of previous awards that were de-obligated when grantees were unable to meet requirements to receive their Stage II disbursement.
- The Program awarded 49 Incentive grants, obligating \$317,316.27.
- On average, the share of Incentive Funds awards to Tier 1 and 2 counties is five percentage points higher than the share of Matching Fund awards to Tier 1 and 2 counties resulting in greater geographical fund distribution across the State.

TABLE 2: FY 2024 One North Carolina Small Business Incentive Funds Program Grantees and Disbursements

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
5Metis, Inc.	Yield Enhancement with Boron Containing Fungicides	Durham	Durham	\$5,900.00	2024	\$5,900.00
A&M Consulting, LLC	Low work function LaB6 nanowire for high current field emission electron source	Morrisville	Wake	\$299.54	2024	\$299.54
Advanced Materials Manufacturing	Protection of Fuel Bundle Components Against Transportation or Seismic Loads	Raleigh	Wake	\$10,728.85	2023	\$10,728.85
Advanced Materials Manufacturing	Creep-Fatigue of Nickel-Based Superalloy Composite Metal Foam	Raleigh	Wake	\$7,290.50	2024	\$7,290.50
Aegis Power Systems, Inc.	High Voltage Converter for Energy Demand Reduction and Clean Energy Tech	Murphy	Cherokee	\$12,000.00	2024	\$12,000.00
AKALAKA Co.	CarePTO: Improving Time-to-Paid Time Off for Care Partners	Durham	Durham	\$1,500.00	2024	\$1,500.00
American Droid, LLC	Robotic End-Effector Direct Drive Motor Design	New Bern	Craven	\$661.88	2024	\$0.00
Amissa, Inc.	Examining biometric measures during perimenopause and menopause to predict sleep interruptions and hot flashes.	Charlotte	Mecklenburg	\$9,390.74	2023	\$9,390.74
AntiXero, LLC	AntiXero: An Extended Duration Solution for Cancer-Associated Dry Mouth	Raleigh	Wake	\$3,000.00	2024	\$3,000.00
Atlantic Fish Co.	Development of Bioengineered Myogenic Cell Lines from Atlantic Halibut for Cultivated Seafood Applications	Washington	District of Columbia	\$2,843.64	2023	\$2,843.64
Atlantic Fish Co.	Development of hybrid plant-based fish nugget containing cultivated fish muscle tissue	Washington	District of Columbia	\$7,454.92	2024	\$7,454.92
Atom Bioworks, Inc.	Designer DNA Nanostructure Radiopharmaceuticals for Pancreatic Adenocarcinoma Imaging	Cary	Wake	\$4,782.58	2024	\$4,782.58

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
BioKier, Inc.	Clinical development of a colon-targeted butyrate tablet to evaluate effects on cholesterol and trimethyl amine oxide in subjects at risk for cardiovascular disease	Chapel Hill	Orange	\$11,848.36	2024	\$11,848.36
BIOMILQ, Inc.	SBIR Phase I: Production of a mixture of functional human milk components using human mammary epithelial cells	Durham	Durham	\$4,584.51	2024	\$4,584.51
BioMojo, LLC	Developing improved visualization, measurement and data standards for augmentation of conventional and robotic surgeries using Advanced Imaging Technologies	Cary	Wake	\$11,296.63	2024	\$0.00
BluEyeQ, LLC	Distributed Wireless Vibration Sensor Network for Transformer Condition Monitoring	Charlotte	Mecklenburg	\$2,581.89	2024	\$2,581.89
Brighton Development, LLC	Self-Sterilizing Contact Lens Case to Prevent Biofilm Contamination of Contact Lenses and Cases	Cary	Wake	\$6,111.00	2024	\$6,111.00
Brilliant Aerospace	A Robust Intelligent Oxygen Sensor for Fuel Tank Environments	Greensboro	Guilford	\$10,920.00	2024	\$10,920.00
Calidar, Inc.	4D Mammography: X-ray Diffraction Imaging for Improved Breast Cancer Diagnostics	Durham	Durham	\$7,927.08	2024	\$7,927.08
Calla Health Foundation	Enhancing the treatment response to checkpoint inhibitors using a novel ablation method	Durham	Durham	\$12,000.00	2024	\$12,000.00
CN-Seamless	Air Force SBIR X24.5 CSO: FX245-PCSO1-1029 - Development of a user friendly, modular, and automated platform to perform maintenance, manufacturing, and demolition in the field.	Raleigh	Wake	\$3,920.88	2024	\$0.00
Coprata, Inc.	Toilet Seat Device for Self-managed Habit Training in Chronic Constipation	Durham	Durham	\$4,798.42	2024	\$4,798.42

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Cosmic Eats, Inc.	The Cosmic Eats On-Site Food Production and Feeding System	Cary	Wake	\$4,557.79	2023	\$4,557.79
Cosmic Eats, Inc.	Innovative Solutions for Sustainable Agriculture: Enhancing Post-Harvest Quality, Reducing Contamination, and Easing Sterilization for Value Added Mushroom Producers	Cary	Wake	\$4,531.95	2024	\$4,531.95
Cydoc Corporation	Creating a Modern AI-Native Electronic Health Record (EHR) & Integrated Low-Code Machine Learning Platform	Durham	Durham	\$3,000.00	2024	\$3,000.00
Daimler Devices	Validation of Novel Suture Clip Technology for Tendon Repair	Raleigh	Wake	\$6,633.55	2022	\$633.55
Daimler Devices	Validation of Novel Tendon Repair Suture Clip	Raleigh	Wake	\$9,481.06	2023	\$9,481.06
Drakeford, Scott, & Associates, LLC	Rest In Me Sleepwatch: A wearable device that teaches users the value of sleep happy habits to overall health	Durham	Durham	\$1,484.78	2024	\$0.00
Ecobot	Leveraging environmental permitting data with artificial intelligence (AI) to ground-truth earth observation imagery	Asheville	Buncombe	\$4,310.05	2024	\$4,310.05
Elemance	Blast: Live Analysis and Simulation Tool for Injury Reconstruction (BLASTIR)	Winston-Salem	Forsyth	\$4,195.15	2023	\$4,195.15
EMF Disturbance Monitors	A Novel Application of Electromagnetic Field Disturbance Monitors To Enable Early Diagnosis Of Congestive Heart Failure And Cardiomyopathy	Cary	Wake	\$5,687.50	2024	\$5,687.50
EMP Consulting	Medical Echelon of Care Conceptual Model for Wargaming	Taylorsville	Alexander	\$8,733.75	2024	\$8,733.75

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
ExstoBio	An AI software platform enables safe and guided medicinal cannabis analgesic care to combat the dual chronic pain and opioid epidemic	Chapel Hill	Orange	\$5,856.01	2024	\$5,856.01
Freescale, LLC	Development and Analysis of Functional Nanolinks for Printed Neuromorphic Electronics and Smart Sensors	Cary	Wake	\$4,243.69	2023	\$4,243.69
Geometric Data Analytics	GeoRouTeR: Geometric and Geographic Routing and Tasking Recommender	Durham	Durham	\$6,059.00	2024	\$6,059.00
GreenLifeTech Corporation	Novel Method for Produce Preservation and Sterilization in Modern Refrigerators	Banner Elk	Avery	\$11,662.50	2024	\$11,662.50
Haw River Mushrooms	Increasing Accessibility of Mushroom-Rich Diets For Children And Youth	Graham	Alamance	\$4,200.00	2024	\$0.00
Helixomer, Inc.	Development of an RNA-based thrombin inhibitor for treatment of neuroinflammation	Hillsborough	Orange	\$4,084.62	2024	\$0.00
Impulse Wellness, LLC	Dense-array Electromyography Fatigue Network Device (DEFEND)	Raleigh	Wake	\$12,000.00	2023	\$12,000.00
IngateyGen, LLC	Developing an Ultra-High Protein Peanut Variety to Meet the Growing Global Protein Demand	Durham	Durham	\$12,000.00	2024	\$12,000.00
Innovative Viral Solutions, LLC	Virus like particle development Proof of Concept	Leland	Brunswick	\$275.00	2023	\$275.00
Innovative Viral Solutions, LLC	Proof of Concept for a Porcine Reproductive and Respiratory Syndrome virus like particle / subunit Vaccine	Leland	Brunswick	\$437.50	2024	\$0.00
KNOOOSC, Inc.	SBIR Phase I: Sail Jet Propulsion - The Use of Water Jets Driven by Electric Motors as Auxiliary Propulsion for Sailboats	Atlantic Beach	Carteret	\$156.25	2024	\$156.25
Kyma Technologies, Inc.	GaN-Based Photoconductive Switch and Triggering Assembly	Raleigh	Wake	\$7,519.28	2023	\$7,519.28

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
LiRA, Inc.	Understanding the integration of lip-reading in voiceless patient care	Chapel Hill	Orange	\$12,000.00	2024	\$0.00
Mucommune, LLC	Engineering a physiologically tuned reservoir intravaginal ring releasing lactic acid for the treatment and prevention of bacterial vaginosis	Durham	Durham	\$11,472.18	2024	\$11,472.18
NextGen Interactions, LLC	ParaCommsVR: High-Risk Incident Communications Training using Multimodal Paralinguistic Analysis with Virtual Reality	Raleigh	Wake	\$9,189.34	2024	\$9,189.34
PestStop, LLC	SBIR Phase I: Efficacy and Safety of Novel Hemp-Based Pesticides	Pembroke	Robeson	\$562.50	2022	\$562.50
Phase, Inc.	3D Printed Blood Brain Barrier Model with Integrated Electrodes for High Throughput Screening	Corneilius	Mecklenburg	\$3,444.00	2024	\$3,444.00
Plakous Therapeutics, Inc.	Prevention of Neurodevelopmental Injury in Premature Babies with Necrotizing Enterocolitis	Winston-Salem	Forsyth	\$3,213.75	2023	\$3,213.75
Practical Scientific Solutions, Inc.	SolarEye: Innovative space weather early warning system	Fuquay Varina	Wake	\$7,552.23	2023	\$7,552.23
Precion, Inc.	Developing rapid, quantitative, and sensitive assay for very early detection (predicting), diagnosing and monitoring Type 2 Diabetes from single blood draw	Morrisville	Wake	\$2,500.00	2024	\$0.00
Protochips, Inc.	System for High Voltage in situ Electrical (HVISE) Characterization	Morrisville	Wake	\$2,832.06	2024	\$0.00
Raglan, LLC	Electric Conversion of MHU-83 and Loader Support Equipment for DAF Modernization	Wilmington	New Hanover	\$4,885.00	2023	\$4,885.00
Reselute, Inc.	Antibiotic Releasing Implant System for Treatment of Periprosthetic Shoulder Infection	Durham	Durham	\$2,355.50	2023	\$2,355.50

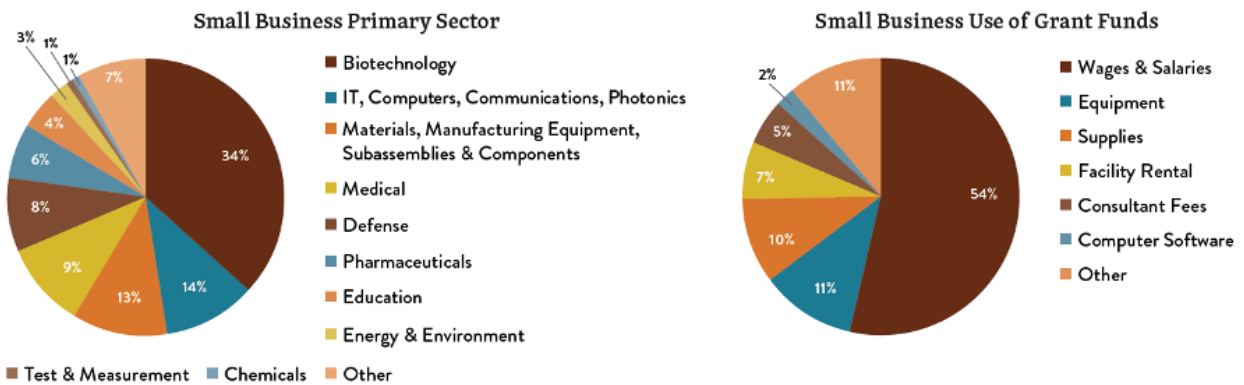
Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Scion Neurostim, Inc.	Development of a vestibular stimulation device for accelerating emergence from anesthesia	Durham	Durham	\$9,000.00	2024	\$9,000.00
Sediment	Measuring coastal sediment grain size instantly using Instagrain, a hand-held camera with on-device machine learning	Greensboro	Guilford	\$12,000.00	2024	\$12,000.00
Smart Material Solutions, Inc.	Light-trapping features made with a scalable nanomanufacturing process	Raleigh	Wake	\$4,455.03	2024	\$4,455.03
Social Cascade, Inc.	Designing An Innovative Social Listening Approach to Benefit Public Health	Raleigh	Wake	\$6,722.96	2023	\$6,722.96
Social Cascade, Inc.	Scaling Proven Interventions with Innovative Dissemination Strategies to Reduce Health Disparities	Raleigh	Wake	\$6,135.82	2024	\$6,135.82
Soelect, Inc.	Safe and Energy Dense Solid-State LiX [®] Metal Batteries	Greensboro	Guilford	\$12,000.00	2023	\$12,000.00
Soelect, Inc.	Solid-State Lithium Metal Batteries for Multi-Use Applications	Greensboro	Guilford	\$11,025.72	2024	\$11,025.72
Triangle Environmental Health Initiative	A novel UV and modified electro dialysis system for broad-range PFAS separation and concentration	Durham	Durham	\$10,421.30	2024	\$10,421.30
United Protective Technologies, LLC	Tough, High Emissivity, Radiator Material	Locust	Stanly	\$12,000.00	2023	\$12,000.00
United Protective Technologies, LLC	Mesoscale Scaling for Hypersonic Applications	Locust	Stanly	\$8,312.74	2024	\$8,312.74
Vidterra, LLC	Secure Edge Handheld for Video Processing and Delivery	Wilmington	New Hanover	\$12,000.00	2023	\$12,000.00
Vigilant Cyber Systems, Inc.	Hull, Mechanical, & Electrical Control System Automation (H-MECSA)	Mount Airy	Surry	\$8,011.51	2023	\$8,011.51

Company Name	Project Title	City	County	Total Grant Amount	Fiscal Year Committed	Amount Paid in FY2024
Vigilant Cyber Systems, Inc.	Directed Energy Artificial Intelligence Missile Defender (DEAIMD)	Mount Airy	Surry	\$9,095.98	2024	\$9,095.98
Virati, LLC	Virati Thermal Handguard Solution	Brasstown	Clay	\$12,000.00	2024	\$0.00
WaterBros Desal, LLC	A Hypertwist Power Take-Off for Coastal Structure Integrated Wave Energy Converters	Charlotte	Mecklenburg	\$2,350.00	2024	\$0.00
Total Amount Awarded for FY2024 Incentive Program (49 Recipients)						\$317,316.27
Total Incentive Program Funds Disbursed in FY2024						\$394,720.12

NOTE: Committed and disbursed amounts in the table above differ because applications received at the end of the solicitation period are paid early in the next fiscal year.

EDUCATION AND OUTREACH

In Session 2021, G.S. 143B-437.80 was modified to enable the use of up to 10% of appropriated funds for education and outreach components. This year, the Office of Science, Technology & Innovation (OSTI) sponsored a panel session on advancing SBIR/STTR activity at the 2023 NC IDEA Ecosystem Summit. The panel included OSTI staff, industry partners, and previous One North Carolina Small Business Program grantees. Panelists addressed a full room and answered many questions about the Program, federal grant writing, and other financial and professional resources beneficial in aiding entrepreneurs drive innovation in the State.



CONCLUSION

A handful of innovative states, including North Carolina, have seen the value of leveraging federal SBIR/STTR funds with State support. North Carolina's entrepreneurial community has enthusiastically heralded the One North Carolina Small Business Program's creation for its impact on growing the state's entrepreneurial economy, and for the fact that it reflects a substantial recognition by lawmakers of the importance of innovation and entrepreneurship to the economic health of the state. As the impact measures above indicate, the Program enables North Carolina's small businesses to generate the kinds of innovation critical for making the state a leader in the global economy.

Table 3: FY 2024 One North Carolina Small Business Program Funding Sheet

APPROPRIATIONS & CARRIED-FORWARD FUNDS	
FY2024 Appropriations	\$2,000,000.00
Funds Carried Forward from Previous Years*	\$339,156.99
Total	\$2,339,156.99
FUNDS OBLIGATED IN FY 2024	
Matching Funds Grant Program	\$2,011,840.72
Incentive Funds Grant Program	\$317,316.27
Education and Outreach	\$10,000.00
Total	\$2,339,156.99
FUNDS DISBURSED IN FY 2024	
Matching Funds Grant Program	\$1,966,032.12
Incentive Funds Grant Program	\$394,720.12
Education and Outreach	\$10,000.00
Total	\$2,370,752.24

* Funds were de-obligated and carried forward as explained in Program Summaries on pages 6 and 14.