New Jersey CSIT

Commission on Science, Innovation and Technology

Annual Report 2023

May 1, 2024

From his first moments in office, Governor Phil Murphy prioritized creating the most diverse and inclusive innovation ecosystem in the nation and reclaiming New Jersey's role as a national leader in innovation making them key focal points of his administration. In late 2018, Governor Murphy re-established the Commission on Science, Innovation and Technology (CSIT) to bolster innovation within the Garden State and to enhance collaboration across the public sector, academia, and private industry.

At CSIT, we are committed to furthering the Governor's vision and creating opportunities for entrepreneurs, researchers, and technology businesses of all sizes.

During 2023, CSIT implemented a strong set of programs that serves as the foundation for supporting New Jersey's innovation economy for years to come. As you will read in this annual report, highlights included continuing the successful New Jersey Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Direct Financial Support Program, the wildly popular Catalyst and Clean Tech Research & Development (R&D) Voucher Programs, the critically important Maternal and Infant Health R&D Seed Grant Program and the roll out of a Food/Ag R&D Seed Grant Program addressing issues of food insecurity. CSIT's work in collaboration with the New Jersey Economic Development Authority and the New Jersey Board of Public Utilities in the cleantech / clean energy space has led to a Clean Tech Pilot Demonstration Program enabling companies to validate their products in a real-world setting. The transition of the Research with New Jersey portal (www.RwNJ.com) to CSIT was completed and Stevens Institute of Technology was added to the platform joining Montclair State, NJIT, Princeton, Rowan and Rutgers. Plans are underway to further expand academic institution participation.

I would like to thank the many business and university leaders, scientists, and public and private sector partners that comprise the CSIT Board for their hard work and dedication.
As we look ahead to 2024, CSIT's mission and work will be more important than ever. Stay tuned for new programs and initiatives that will benefit businesses and researchers throughout the industry.

Debbie Hart
CSIT Chair

New Jersey CSIT
Commission on Science, Innovation and Technology

May 1, 2024

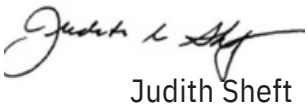
CSIT is committed to advancing the state's innovation ecosystem to create a stronger, fairer economy for all New Jerseyans by keeping our state at the forefront of scientific and technological advances. Throughout 2023, CSIT continued its support to entrepreneurs participating in the federal SBIR/STTR programs through direct funding grants and match support for technical assistance to the New Jersey Small Business Development Center. The Commission also launched additional grant and technical assistance programs, including further rounds of the Catalyst Seed Research and Development (R&D) Voucher Program and Catalyst R&D Seed Grants in targeted sectors (Food / Agriculture, Maternal / Infant Health; Drug Delivery and Technology). CSIT has also continued to collaborate with the NJEDA and the NJBPU to implement Seed Grant and Voucher Programs to support entrepreneurs growing Clean Tech and Clean Energy startups.

CSIT has a robust suite of grant programs ranging in size from $25K to $250K supporting ideation through demonstration for early-stage innovation-based companies enabling them to establish roots in New Jersey. The response from the entrepreneurial community to all these programs has been amazing, with most programs oversubscribed. The vast majority of applicants to CSIT programs have five or fewer employees and are developing products in life sciences, technology, clean tech and advanced manufacturing.

The analysis of the awardees for the first three rounds of SBIR/STTR Direct Financial Assistance grants and initial Catalyst and Clean Tech R&D Seed Grants indicates positive job growth, increased operational footprint in New Jersey and follow-on, third-party funding of over 15.5 times the original CSIT awards of $5 million.

CSIT is committed to further developing and rolling out new programs aligned with the state's key strategic industrial sectors and encouraging collaboration and connectivity between industry and academia. We completed the transition of the management of the RwNJ portal from NJEDA to CSIT and have expanded the portal. CSIT has also taken a leadership position convening and catalyzing New Jersey's higher education institutions and industry partners to prepare joint submissions to federal government cluster development, R&D, and manufacturing funding opportunities.

2023 was a challenging one on many dimensions, and I am proud of the tenacity and accomplishments of New Jersey's innovation-based life science, clean tech and technology companies. I thank each and every one of you for your contributions to developing and growing New Jersey's innovation economy.



Judith Sheft
CSIT Executive Director

New Jersey Commission on Science, Innovation & Technology 2023 Annual Report

Governor Murphy and the New Jersey Legislature re-established the New Jersey Commission on Science, Innovation and Technology (CSIT) in August of 2018. The Commission is responsible for strengthening the innovation economy within the state, encouraging collaboration and connectivity between industry and academia, and the translation of innovations into successful high-growth businesses

CSIT members include business leaders, university leaders, and scientists, along with representatives of New Jersey Economic Development Authority (NJEDA), the Secretary of Higher Education, the Commissioner of the New Jersey Department of Education, and members of the State Legislature

MISSION

CSIT is committed to advancing innovation-based economic development and job growth, and to creating a stronger, fairer economy for all New Jersey citizens by keeping the Garden State at the forefront of scientific and technological innovations. Innovation alone is not enough to drive sustained economic activity. It requires the translation of innovation into commercial application in the marketplace. This, in turn, results in new firm formation and high-wage jobs that can improve and save lives and change the world for the better. Support for early-stage entrepreneurs and innovation-based entrepreneurial companies is a key underpinning to achieving a robust, diverse, and inclusive innovation economy.

CSIT links and leverages resources and collaborates with other New Jersey agencies to implement programs and policies to address the challenges faced by entrepreneurs, especially gaps in services and support for early-stage startups focused on technology commercialization with the potential for high growth and further investment.

PROGRAMS

SUPPORT AND COORDINATE

·activities to assist early-stage science, innovation and technology entrepreneurs;

STIMULATE AND PROMOTE

·strong academic and industrial cooperation to accelerate the commercialization of new technologies from public and private research institutions;

ENCOURAGE AND PROPEL

·the development of scientific and technological programs in areas of strategic importance;

ENHANCE

·science, innovation and technology policy decision making at all levels of New Jersey government.

CSIT BOARD MEMBERS

VOTING MEMBERS

PUBLIC MEMBERS APPOINTED BY GOVERNOR

Debbie Hart, Chair | *President and and Chief Executive Officer, BioNJ*
David Pascrell, Treasurer | *Co-Chair, Government and Regulatory Affairs, Gibbons P.C.*
Adam Sternbach Chair| *General Counsel, Tessera*

PUBLIC MEMBERS APPOINTED BY GOVERNOR WITH RECOMMENDATION OF SENATE PRESIDENT

Dr. Joel Bloom | *President, NJIT (served through January 20, 2023)*
Charlene Brown | *(Retired) AT&T New Jersey President (served through December 31, 2022)*

PUBLIC MEMBERS APPOINTED BY GOVERNOR WITH RECOMMENDATION OF SPEAKER OF ASSEMBLY

Dr. Alain Kornhauser | *Professor, Operations Research & Financial Engineering / Director, Transportation Program, Princeton University*

SECRETARY OF HIGHER EDUCATION, EX-OFFICIO, OR DESIGNEE

Dr. Brian Bridges

COMMISSIONER OF EDUCATION, EX-OFFICIO, OR DESIGNEE

Mr. Kevin Dehmer

CEO, NJEDA, EX-OFFICIO, OR DESIGNEE

Tim Sullivan

NON-VOTING MEMBERS

MEMBERS OF THE SENATE APPOINTED BY THE PRESIDENT OF THE SENATE, EX-OFFICIO

The Honorable Paul Sarlo
The Honorable Robert Singer

MEMBERS OF THE GENERAL ASSEMBLY APPOINTED BY THE SPEAKER OF THE GENERAL ASSEMBLY, EX-OFFICIO

The Honorable Christopher DePhillips
The Honorable Robert Singer

PRESIDENTS OF THE STATE'S PUBLIC AND PRIVATE RESEARCH INSTITUTIONS OF HIGHER EDUCATION, APPOINTED ANNUALLY BY THE GOVERNOR, EX-OFFICIO

Dr. Jonathan Holloway | President, Rutgers University Dr. Nariman Farvardin | President, Stevens Institute of Technology

HIGHLIGHTS

"CSIT has been a powerful facilitator of collaboration between the State of New Jersey and Princeton University. The CSIT team understands how to support and leverage academic research and connect it with industry to spur innovation that could benefit the state's economy and citizens."

- Dr. Coleen Burrus, Director of Corporate Engagement & Foundation Relations, Office of the Dean for Research, Princeton University.

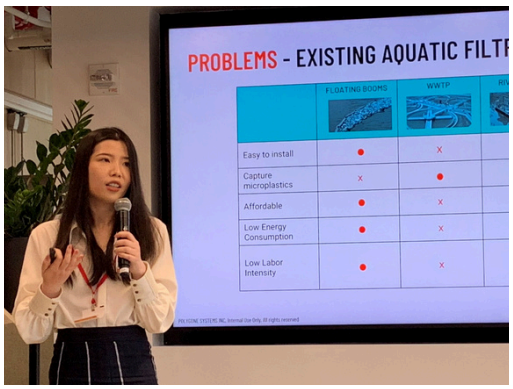
"Participation in CSIT has provided real benefit to my organization. CSIT has been a conduit through which we have visibility into the startup community and the startup community has been able to engage with our lab. Moreover, CSIT has fostered a much-needed sense of community and common purpose among New Jersey's leading research institutions."

- Dr. David Zimmerman, Head, Strategic Partnership Office, Princeton Plasma Physics Laboratory

In 2023, CSIT continued to expand key grant and program initiatives that support emerging companies within New Jersey's innovation ecosystem. Building on the foundation for seed, voucher, and matching grant programs, CSIT has implemented programs in targeted industry areas that align with the state's strategic priorities. CSIT has an active portfolio of 11 grant programs and, from 2020 through December 2023, made 250 awards totaling approximately $14.3 million. An additional 57 awards have been made in the first four months of 2024, totaling $3.25 million.

Figure1: CSIT Programs as of March 2024

Program	Max Award
Catalyst Research & Development (R&D) Seed Grant	$75,000
Catalyst R&D Seed Grant – Drug Therapeutic	$150,000
Catalyst R&D Voucher Grant	$40,000
Clean Tech R&D Seed Grant	$75,000
Clean Tech Pilot Demonstration Project	$250,000
Clean Tech R&D Voucher Grant	$40,000
Food / Agriculture Innovation R&D Seed Grant	$75,000
Maternal / Infant Health R&D Seed Grant	$75,000
Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Phase I Direct Financial Support	$25,000
SBIR/STTR Phase II Match	$50,000
SBIR/STTR FAST Match – NJSBDC	$125,000



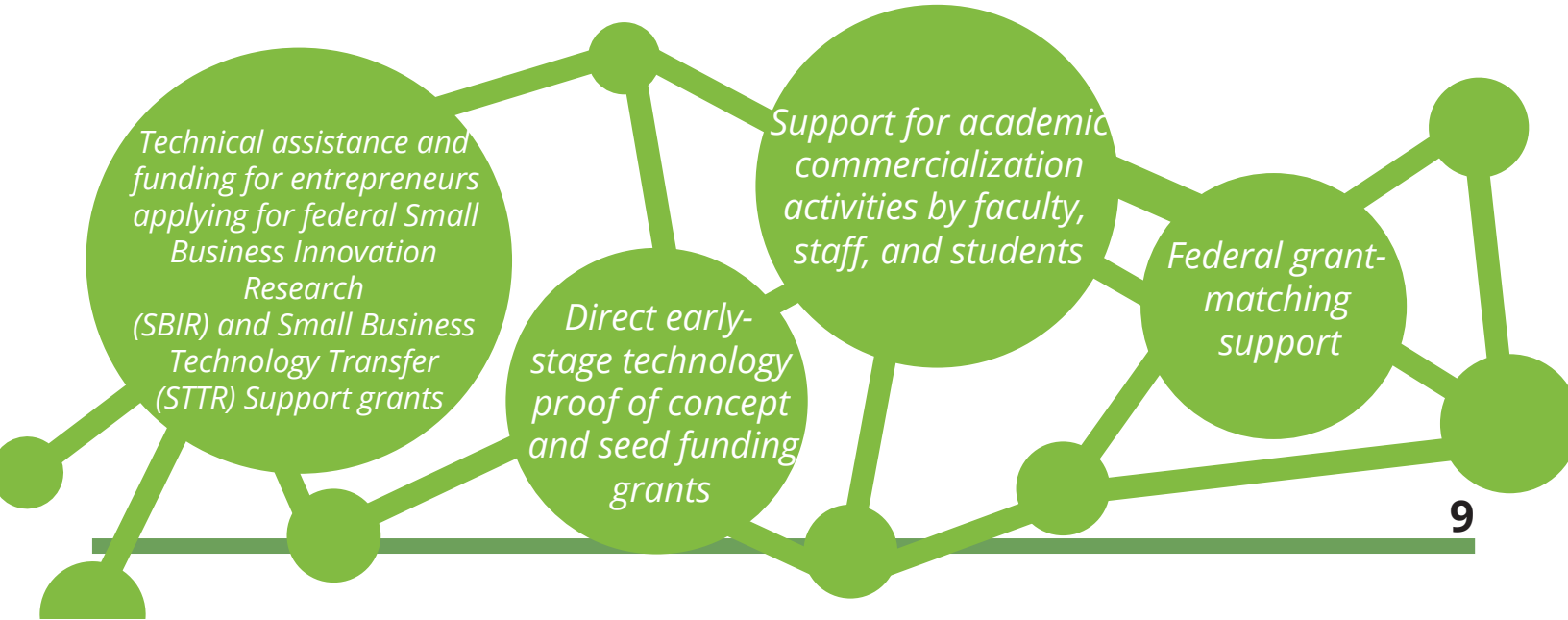
With this robust suite of programs, CSIT plays a critical role in supporting New Jersey's small, very early-stage innovation intensive entrepreneurs in the clean tech, life sciences, and technology enabled sectors. CSIT delivers assistance at the earliest stages of a startups' life cycle, enabling these companies to put down roots in New Jersey by providing grant funding, connections and technical assistance, including direct one-on-one counseling and webinars.

Key gaps in the state's innovation ecosystem that CSIT addresses include:

- Technical assistance and funding for entrepreneurs applying for federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Support grants;
- Direct early-stage technology proof of concept and seed funding grants;
- Support for academic commercialization activities by faculty, staff, and students; and
- Federal grant-matching support.

A major pillar of all CSIT programs is increased intentional and targeted outreach to female and minority entrepreneurs and communities that have historically had limited participation in the innovation economy. Currently, approximately 25 percent of the applicants to CSIT grant programs are self-identified female entrepreneurs, while approximately 10 percent are underrepresented minority entrepreneurs. CSIT is continuing efforts to increase these participation percentages.

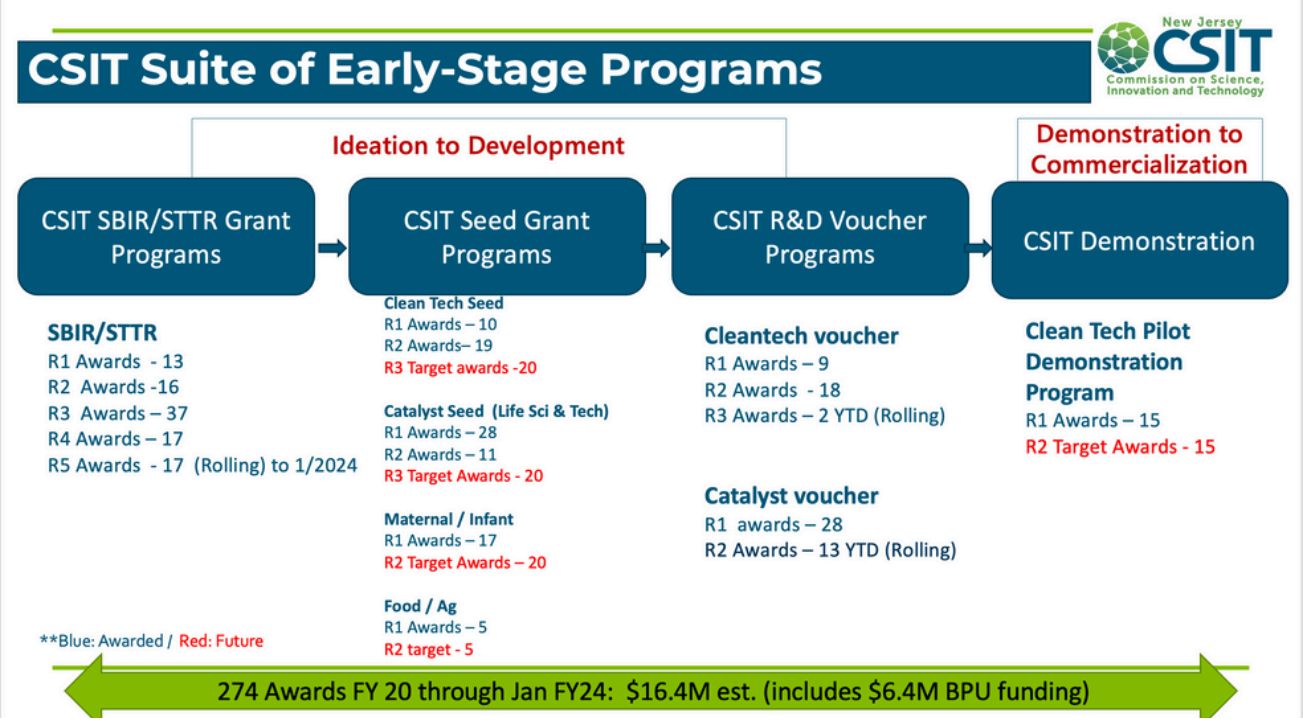
CSIT has taken a leadership position by convening and catalyzing New Jersey's higher education institutions and industry partners to prepare joint submissions to federal cluster development, R&D, and manufacturing funding opportunities. By working together collaboratively, New Jersey should increase the likelihood of winning an award.



CSIT ACTIVITY AT A GLANCE

"The CSIT program provides mutual benefits for everyone involved, resulting in a win-win scenario. Companies gain access to university infrastructure, instruments, and the specialized knowledge of academic researchers. At the same time, faculty members are exposed to the unique challenges faced by industry and can use this experience to enhance their teaching and research."
– Dr. Somenath Mitra, Professor, NJIT

Since its re-establishment, CSIT has made 250 awards totaling approximately $14.3 million through December 2023. From January through April 2024, CSIT has made an additional 57 awards totaling $3.25 million.



The figure below shows the distribution of awardees throughout the state and demographics information on recipients. The data indicates that:

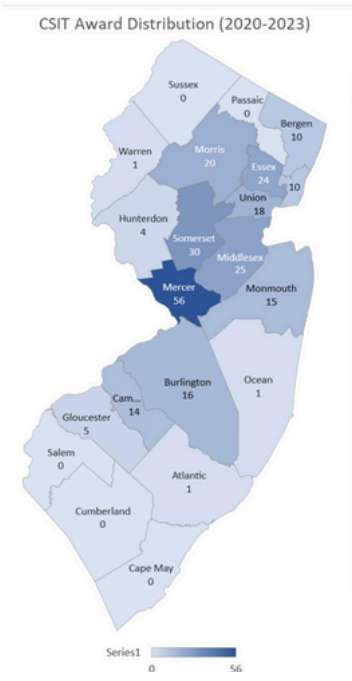
1. CSIT grant awardees are located in 76 percent of the counties in New Jersey, signaling that innovation-intensive entrepreneurs have established operations widely in the state.

2. CSIT awardees are working in all nine of the state's strategic industry sectors, with the life sciences, technology, clean tech, and advanced manufacturing having the highest number of awardees.

3. CSIT awardees are small. Seventy-one (71) percent have five or fewer employees and 90 percent have 10 or fewer employees.

4. CSIT has undertaken efforts to diversify applicants. In 2023, 30 percent of applicants had received New Jersey state minority certification and 20 percent had received the New Jersey state women certification.

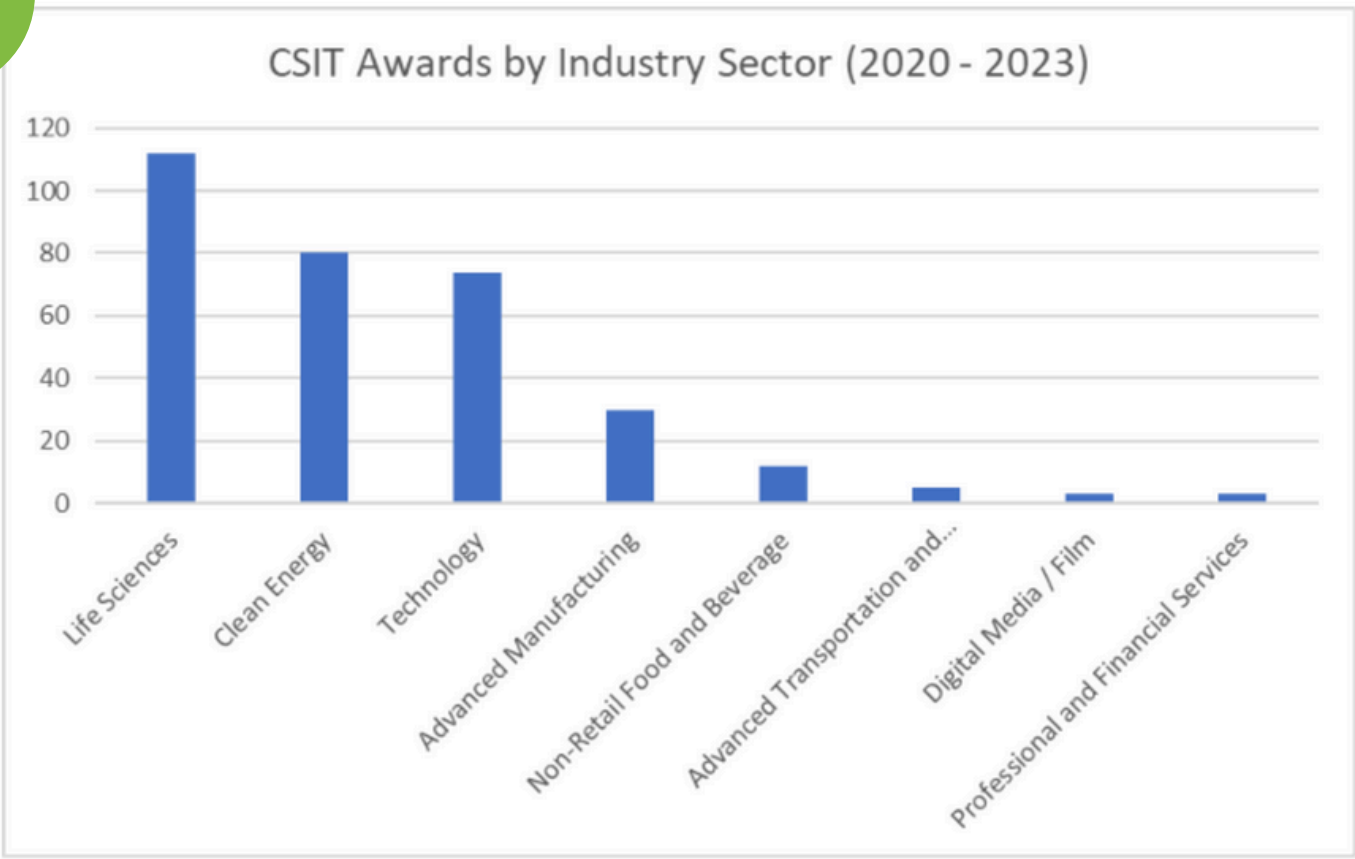
CSIT Awardee Locations



Legislative District	Total awards	Total Grant Amount
2	2	$ 100,000.00
3	4	$ 175,000.00
4	3	$ 257,127.00
5	7	$ 450,000.00
6	5	$ 449,749.00
7	15	$ 1,048,888.00
8	1	$ 250,000.00
9	1	$ 12,500.00
11	4	$ 598,620.00
12	1	$ 15,000.00
13	11	$ 425,000.00
14	15	$ 630,000.00
15	11	$ 821,628.00
16	47	$ 2,504,600.00
17	18	$ 904,880.00
18	5	$ 224,960.00
20	4	$ 225,000.00

Legislative District	Total awards	Total Grant Amount
21	13	$ 613,080.00
22	5	$ 399,827.23
23	12	$ 907,809.00
24	3	$ 140,000.00
25	4	$ 249,975.00
26	8	$ 699,692.00
27	10	$ 571,689.00
28	3	$ 124,000.00
29	7	$ 225,000.00
31	4	$ 224,500.00
32	6	$ 239,578.00
33	4	$ 199,923.00
34	6	$ 175,000.00
35	1	$ 25,000.00
38	2	$ 240,000.00
39	4	$ 299,968.00
40	1	$ 25,000.00

New Jersey CSIT Commission on Science, Innovation and Technology


CSIT Awards by Industry Sector (2020 - 2023)
120
100
80
60
40
20
0
Life Sciences
Clean Energy
Technology
Advanced Manufacturing
Non-Retail Food and Beverage
Advanced Transportation and...
Digital Media / Film
Professional and Financial Services

CSIT ENTREPRENEURIAL GRANT PROGRAM – HIGHLIGHTS

"CSIT has been, and continues to be, a terrific partner, always seeking ways to connect industry to academia. Stevens and the institutions of higher education in New Jersey are fortunate to work with an organization that consistently values the contribution of higher education to the innovation economy."
– Gregory Townsend, Senior Director of Corporate, Government and Community Relations, Stevens Institute of Technology

***SBIR/STTR**-DIRECT FINANCIAL ASSISTANCE GRANT PROGRAM*

CSIT's SBIR/STTR Direct Financial Assistance Program has been the cornerstone of the Commission's grant support to innovation-intensive entrepreneurs. The program provides Direct Financial Assistance Phase I grants of $25,000 to New Jersey small businesses that have received federal Phase I SBIR/STTR awards in the past two years, as well as Bridge Funding Phase II grants of $50,000 to New Jersey small businesses that have successfully completed Phase I and have applied for Phase II of the federal SBIR/STTR program. CSIT's SBIR/STTR Direct Financial Assistance Program provides much-needed support, enabling the awardees to continue their development activity and retain staff.

The federal SBIR/STTR programs are highly competitive three-phase award programs, which provide qualified small businesses opportunities to propose innovative ideas that meet the specific R&D needs of the federal government. The programs were created to support scientific excellence and technological innovation through the investment of federal research funds in critical American priorities to build a strong national economy. Annually, the total SBIR/STTR award obligations are approximately $4 billion. In Fiscal Year 2023, 111 New Jersey companies received approximately $72 million in SBIR/STTR award obligations. For more information, please visit https://www.sbir.gov/about.

CSIT has completed four rounds of the program on a fixed cycle basis, giving grants to 83 companies for a total of $2.4 million, leveraging $40 million in federal funding. The companies supported were predominately in the life sciences, clean technology, or technology area, with their federal support coming from the Department of Defense (DOD), the National Institutes of Health (NIH), the National Science Foundation (NSF), and the Department of Energy (DOE). See Appendix A for company descriptions for the January 2023 awardees.

In September 2023, the program was moved to a rolling award basis to better align with federal award cycles. As of April 2024, 22 awards have been made under the new program structure.

Economic Impact of SBIR/STTR Direct Financial Assistance Grants

First-year economic impact data that has been received from the initial three cohorts of 65 companies that received CSIT SBIR/STTR Direct Financial Assistance grants in June 2020, January 2021 and January 2023 indicates very positive results across economic impact dimensions of job growth, expansion, and follow-on funding.

- Seventy-eight (78) percent of the companies (51) created a total of 196 new employment opportunities: 112 full time / 42 part-time and 42 interns.

- Fifty-four (54) percent of the companies (35) filed for new patents either domestically or internationally which is a measure of validation of their innovations and technology development.

- The companies reported obtaining third-party investments, additional grants, and loans of over $52 million equating to 27.3 times the original CSIT awards of $1.9 million. This additional funding beyond the federal SBIR/STTR and CSIT Direct Financial Assistance grants enabled the companies to continue their R&D, production, and commercialization activities. One of 28 was already acquired for its technology.

SBIR/STTR Technical Assistance Coaching

An analysis of federal SBIR/STTR awards by state shows that New Jersey is significantly lower in terms of awards and dollars obligated than neighboring states. Furthermore, there is an increasing demand from New Jersey early-stage innovation-based startups on learning about the federal SBIR/STTR program as evidenced by inquiries that CSIT has received. An evaluation of support programs by the federal Small Business Administration in the SBIR/STTR space indicate that personalized and customized assistance, coupled with generalized group training and workshops, can increase the likelihood of success and improve outcomes through all phases of the SBIR/STTR process and beyond.

To address this gap, in December 2021, September 2022, October 2023, and November 2023, CSIT provided funding and entered into agreements with the New Jersey Small Business Development Center (NJSBDC) to deliver expanded SBIR/STTR coaching and mentoring support, building on the existing NJSBDC technical commercialization assistance program. The NJSBDC and CSIT have continued to collaborate on outreach and both webinar-based and one-on-one training with the goal of increasing the number of New Jersey SBIR/STTR applications and awards. A new Phase 0 grant development and grant writing assistance program is planned for 2024.

"*The New Jersey Commission on Science, Innovation and Technology (CSIT) has forged a strong partnership with the New Jersey Small Business Development Center (NJ SBDC) to support the growth and success of innovative small businesses across the state. It is so crucial to have these strong collaborative partnerships to ensure that our NJ businesses have the best resources for success. Through this collaboration, CSIT and NJSBDC provides specialty programs that help entrepreneurs access capital, commercialize new technologies, and connect with academic research institutions. CSIT is an amazing asset that ensures that innovative, early-stage companies have the support they need to navigate the commercialization pathway and thrive in New Jersey's vibrant innovation ecosystem.*"

Kelly Brozyna
State Director & Chief Executive Officer
America's SBDC New Jersey (NJSBDC)

Cleantech Innovation Programs

"CSIT continues to be marvelously supportive of our NJ-based energy storage materials company. They have provided us valuable financial assistance to explore new technology concepts and access specialist facilities. CSIT is also building a strong network of clean energy-related businesses and workforce development organizations across New Jersey. They proactively listen to what is needed and design programs to provide the right support."
– Christopher Abrams, Lead Scientist, HiT Nano

CSIT has entered into three agreements with the NJEDA to support early-stage, New Jersey-based clean tech companies by implementing three grant programs with funding provided by the New Jersey Board of Public Utilities (BPU):

1. **The Clean Tech Seed Grant Pilot Program** is focused on assisting local clean tech businesses during critical proof of concept and prototyping stages, empowering them to attract outside investors and begin generating revenue. (Program launched in Fiscal Year 2021. Two rounds have been awarded. A third round launched in December 2023 and applications are being scored with awards anticipated in May 2024.)
2. **The Clean Tech Voucher Pilot Program and Asset Map** is focused on increasing awareness, access, and utilization of the State's clean tech innovation-related assets at academic, federal, and non-profit core labs and makerspaces. (Program launched in Fiscal Year 2021. Awards are made on a rolling basis.)
3. **The Pilot Clean Tech Demonstration Grant Program** is focused on giving companies the opportunity to test prototypes in the real-world environment for further validation. (The program launched in Fiscal Year 2023. One round of awards were made and a second round will launch in June 2024.)

Year	Funding	Outcomes - Awards
FY21	$1,187,500	9 Clean Tech Seed Grants - $75,000 per awardee 9 Clean Tech Vouchers - $15,000 per awardee
FY22	$2,375,000	19 Clean Tech Seed Grants - $75,000 per awardee 100 Clean Tech Vouchers - $ 25,000 per awardee
FY23	$3,420,000	15 Pilot Clean Tech Demonstration grants - $250,000 per awardee 10 Clean Tech Vouchers - $25,000 per awardee
FY24	$5,820,000	Clean Tech Seed Grants - under review - $75,000 per awardee 4 Clean Tech Vouchers* - $40,000 per awardee

**Clean Tech Voucher Pilot Program applications are accepted on a rolling basis. Additional applications are under review.*

The companies that have participated in CSIT's clean tech programs have made significant progress in their R&D activities. Many of the companies that started off with Clean Tech R&D vouchers were able to leverage that funding to apply for Clean Tech Seed and Pilot Clean Tech Demonstration grants and expand their relationships with the core lab facilities.

CSIT and NJEDA are sponsors of the national Clean Tech Open- Northeast accelerator program. New Jersey companies that complete the training receive tuition reimbursement. In 2023, five companies participated in the program.

An analysis of the initial cohort of Clean Tech Seed grant awardees indicates that they were able to leverage the CSIT funding 33 times in follow funding of grants, equity investment and loans. Total employment from the companies increased by 115 percent including full time, part time and interns. Some early successes include the following:

- **Farm to Flame** – Electricity generation from biomass They were the top winner at the 2023 UpPrize Social Innovation Challenge, which recognizes entrepreneurs who use technology to address social impact issues including economic justice, racial equity, and sustainability. Among the contracts its landed is an agreement to process paper pulp sludge into energy for Georgia-Pacific, one of the largest paper manufacturers in the world.

"*CSIT has been of strong benefit to Farm to Flame Energy. They have helped us to do a power generation demonstration of our FTF S2 Generator (Nat. Gas Pilot), and we are now getting ready to do the biomass phase of the power generation demonstration. They have been supporting us for years, and we appreciate their consistency and continued resources to help carbon-neutral energy companies like Farm to Flame Energy shine.*"

Kwaku Jyamfi
CEO - President
Farm to Flame Energy

- **Princeton Nu Energy (PNE)** – Lithium battery recycling technology – raised $16M in Series A financing. Their current round investors include Wistron, Traxys, Honda Motors, and GS Futures. The company has research grants for battery recycling from the U.S. Department of Energy, most recently for $12 million and $4.375 million. The Series A funding will fortify PNE's commitments to reducing the nation's reliance on foreign critical materials, expanding domestic manufacturing capabilities, and enhancing the creation of high-quality clean energy jobs in the U.S.

- **RenewCO2** – chemical manufacturing company – RenewCO2 is revolutionizing monomer production from carbon dioxide emissions with its Electrocatalytic Carbon Utilization Technology. The company moved into new 15,000 square foot facilities in Somerset, New Jersey. The state-of-the-art laboratories and pilot areas are designed to advance research in carbon utilization and other sustainable technologies and bring these innovations to market more efficiently.

- **Sunray Scientific** – a supplier of advanced materials for printed electronics manufacturing and lead-free packaging has received over $10 million in federal SBIR/STTR funding over the last three years. The company has submitted proposals for packaging manufacturing expansion as part of the CHIPs Act funding opportunities.

Catalyst Seed R&D Grant Pilot Programs

In March 2023, the CSIT Board approved $1.5 million for Round 2 of the Catalyst Seed R&D Grant Pilot Program for companies working in drug therapeutics ($150,000 per award). In addition, the CSIT Board approved $750,000 for a Food and Agriculture Catalyst Seed R&D Grant Pilot Program ($75,000 per award). In November 2023, the CSIT Board approved $1.5 million for Round 3 of the Catalyst Seed R&D Grant Pilot Program for non-drug therapeutics ($75,000 per award). By focusing the target sectors, applications were evaluated more efficiently. Eleven (11) Round 2 drug therapeutic awards were approved in January 2024 and five (5) Food and Agriculture applications were approved in November 2023. A second round of Food and Agriculture will launch in the second quarter of 2024.

Economic impact data has been collected for the Round 1 Catalyst Seed awardees and the results show increases in job creation, product development and follow-on funding. In total, 37 new jobs were created (15 full time, 13 part-time and seven internships). Half of the companies have completed development and begun testing and commercialization activities. A third of the companies have filed for new patents.

Catalyst R&D Voucher Program

"CSIT has provided enormous support to the Institute for Life Science Entrepreneurship (ISLE) community in the past year. The Catalyst and the R&D Voucher programs alone have been used by four companies at ILSE, totaling over $400,000. This has enabled these startups to maintain their intense focus on R&D and significantly advance technologies while providing a mechanism for them to collaborate with New Jersey's universities and core facilities."
- Tom Richardson, President, ISLE

The Catalyst R&D Voucher Pilot Program is focused on increasing awareness, access, and utilization of the State's innovation-related assets at academic, federal, and non-profit core labs, animal testing facilities, and makerspaces. The program enables early-stage companies to access highly specialized equipment that they would not otherwise be able to purchase for individual use. The program operates on a rolling basis and has been so successful that the Fiscal Year 2022 budget of $1.2 million was increased in July 2023 by $500,000 to a total of $1.7 million. In September, the program was modified to increase the total per company voucher award from $25,000 to $40,000. The academic facilities have indicated that the opportunity to work early-stage companies has led to further collaborations and enabled companies to obtain the necessary data to apply for federal funding. Forty-one (41) vouchers were approved under in Round 1 program and Twenty-Five (25) under the increased Round 2 program. Additional facilities including Hackensack Meridian Center for Discovery and Innovation and Coriell Institute, as well as federal laboratories are now participating in the program. A meetup with companies and core facilities is being planned for the early second Quarter 2024.

"*SNOChip Inc has greatly benefited from the support provided by the R&D Voucher program of NJ CSIT. As a newly formed startup developing hardware technology in the photonics industry, overcoming resource limitations is a significant challenge to us. The grant from the CSIT is instrumental in enabling us to develop fabrication process and build POC (proof of concept) prototypes. This capability is a key in demonstrating the potential of our technology. It plays a critical role in helping us gain customer traction and secure SBIR/STTR grants. The assistance from CSIT programs has been invaluable to our venture's growth.*"

Qing Wang
CEO, SnoChip

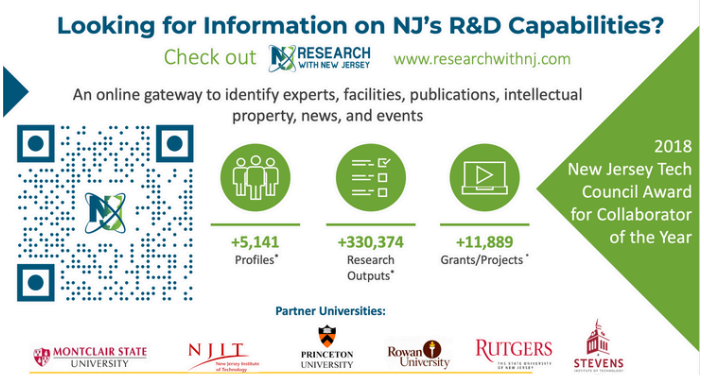
Maternal / Infant Health R&D Grant Program

In January 2023, the CSIT Board approved an increase of $525,000 to Maternal and Infant Health R&D Grant Program and approved seventeen (17) awards of $75,000 each. The program supports and aligns with First Lady Tammy Murphy's Nurture NJ initiative and supports innovation from researchers and entrepreneurs focused on developing technology, therapeutics, and other solutions to address maternal and infant health challenges in New Jersey, leading to enhanced quality of care and service delivery activities for women, infants, and healthcare agencies, from prenatal through postpartum.

The companies awarded grants are engaged in developing innovations in digital technology, therapeutics, diagnostics, and devices that can improve health outcomes and engage touchpoints from the entire healthcare ecosystem of patients, physicians, providers, and communities.

To watch Tammy Murphy's press conference with CSIT on January 20, 2023, visit.
https://tinyurl.com/CSITMaternalHealthPC

Research with New Jersey (RwNJ)



The free, online portal, which can be accessed at **www.researchwithnj.com,** offers more than 330,000 pieces of research output that commercial enterprises, from startups to global corporations, can use to fuel their growth. Topics range across a broad spectrum of disciplines, such as biology, chemistry, mathematics, psychology, sociology, and others. The global information and analytics company Elsevier was selected in 2022 to continue maintaining the portal following a competitive Request for Proposals process The global information and analytics company Elsevier was selected in 2022 to continue maintaining the portal following a competitive Request for Proposals process. By analyzing RwNJ usage data, universities are able to gain insights on the companies and countries that are searching RwNJ, along with top areas of interest.

Outreach/Communications

Throughout the year, CSIT has partnered with BioNJ , the New Jersey Business and Industry Association (NJBIA), local chambers, and university student entrepreneurial centers on training initiatives. CSIT has also been collaborating with the NJEDA on several international programs to increase the global awareness of New Jersey innovators, entrepreneurs and startups to international funding and collaboration opportunities.

CSIT is also working to develop a robust, standalone CSIT website. During its Board meetings, CSIT has implemented virtual tours of innovation resources in New Jersey (including research locations and entrepreneurial hubs) to allow CSIT Board members and the public the opportunity to connect with innovation resources and capabilities in the state.

Administration

On the administrative side, CSIT is continuing to implement grant management process improvements and standard operating policies. Online applications, enhanced applicant outreach, and informational webinars were instituted to reduce challenges faced by applicants and to provide opportunities to correct missing documentation, thereby reducing denials and rejections of applications. CSIT is bringing national best practices and new program concepts to New Jersey by participating in monthly federal SBA SBIR/STTR roundtable sessions.

When CSIT was re-established in 2018, CSIT and the NJEDA entered into an initial Memorandum of Understanding (MOU), which laid out the parameters by which the NJEDA provided support to CSIT in the areas of administrative support and fiscal management. Having the NJEDA continue to provide these services to CSIT allows for greater operational efficiency and minimizes administrative waste compared to CSIT providing those programmatic, administrative, and facility support functions themselves. An amended MOU was entered into in June 2022 to extend the relationship and update the chargeback mechanism to account for the increase in CSIT budget and programs. Given the increase in the CSIT budget and increase in the number of CSIT grant and incentive programs offerings, it is best practice to have a third party conduct an overall audit of CSIT programs. In February 2024, the MOU was further amended so that program audits of CSIT grants programs can be conducted by the same firm that will be auditing NJEDA programs, with CSIT covering expenses related to its own program audits.

KEY CSIT TIMELINE OF ACTIVITIES:

January 2023

- 17 SBIR/STTR Direct Financial Assistance Grants awarded
- Round 1 of the Catalyst R&D Voucher Program launched

March 2023

- Food and Agriculture R&D Seed Grant Pilot Program approved
- Catalyst R&D Seed Pilot Grant Program - Drug Therapeutic approved

January 2023 – December 2023

- Bi-monthly meeting of New Jersey university core laboratory facility leadership held
- Monthly meetings held with higher education partners and industry on CHIPS and Science Act

May 2023

- CSIT Annual Meeting
- 15 Clean Tech Pilot Demonstration Grants awarded
- Program (FAST) SBIR/STTR Support

July 2023

- $50,000 to NJSBDC to develop a SBIR/STTR grant writing support program
- Increase in funding for Catalyst R&D Voucher Pilot Program
- MOU with NJIT to conduct economic impact analysis of CSIT programs

September 2023

- Round 5 SBIR/STTR Direct Financial Support Grant program approved – rolling basis
- Round 2 of Catalyst R&D Voucher Pilot Program approved
- CSIT/NJEDA participate in Cleantech Open Northeast programs

November 2023

- 4th Clean Tech MOU with NJEDA approved
- Round 3 Clean Tech R&D Seed Grant Pilot Program approved
- Five Food and Agriculture R&D Seed Grants awarded

January 2024

- 11 Round 2 Catalyst R&D Seed Grants awarded (Drug Therapeutics)

Looking Ahead

CSIT plays a critical long-term role in accelerating New Jersey's innovation economy with a robust suite of programs offering mentoring, connections, financial and technical assistance to very early-stage innovation intensive entrepreneurs. CSIT's work with the full spectrum of New Jersey academic partners has leveraged their research and facility capabilities to support the entrepreneurial eco-system through the RwNJ platform and R&D Voucher programs. Additionally, CSIT has developed strategies that resulted in collaborative submissions to federal funding opportunities for regional cluster development associated with the CHIPs and Science Act.

In January 2024, CSIT submitted a budget request of $10 million for Fiscal Year 2025 to support the development and implementation of a variety of programs, including additional SBIR/STTR direct company support and technical assistance, three early-stage seed and voucher grant programs (Catalyst, Maternal & Infant Health and Food/Agriculture), technology commercialization support for university spin outs, support for the RwNJ platform, and innovation ecosystem events.

The estimated cash balance for CSIT through June 30, 2024 is shown below. As detailed in the table, approximately 78 percent of cumulative cash expenses will go to direct program support awards to entrepreneurs, SBDC FAST Match and the ResearchWithNJ platform.

CSIT Sources & Uses of Funds *Available Cash Balance*

Cumulative estimates through 6/30/24

CSIT: As of March 31, 2024		
Resources		
FY19-FY24 Appropriations	$	23,400,000
Interest Income	$	529,653
NJEDA Transfer Maternal / Infant R&D Seed Grant	$	250,000
NJEDA Transfer for Food/Ag R&D Seed Grant	$	750,000
Total Cumulative CSIT Resources FY19-FY24	**$**	**24,929,653**
Disbursements		
Grants		
SBIR/STTR Direct Financial Assistance Grants - Round 1-5	$	2,650,000
Catalyst R&D Seed Grants - Round 1 - 2		3,359,067
Catalyst R&D Vouchers - Round 1 -2		490,613
Food & Ag R&D Seed Grants		299,856
Maternal Infant R&D Grants - Round 1		1,059,796
Rutgers NJSBDC - SBIR/STTR FAST Match & Support		340,000
Research with NJ		1,189,850
Subtotal Grantee Costs	**$**	**9,389,182**
Administrative Costs		
Personnel Costs	$	2,078,822
Insurance (Property&Gen Liability and Public Officials)		29,585
Networking/Conferences/Travel/Parking		129,407
DAG/Legal Expenses		225,380
Administrative Fee - EDA		227,500
Subtotal Administrative Costs	**$**	**2,690,694**
Total Disbursements	**$**	**12,079,875**
Cash On Hand March 31, 2024	**$**	**12,849,778**
Encumbrances/Commitments on Above Programs		
SBIR / STTR Direct Financial Assistance Grants - Round 5	$	975,000
Catalyst R&D Seed Grants Round 2-3		3,153,198
Catalyst R&D Voucher - Round 1 and 2		2,209,387
Food & Agriculture R&D Seed Grants - Round 1		450,144
Rutgers NJSBDC - SBIR/STTR FAST Match		125,000
Maternal Infant R&D Grant - Round 1		215,204
Research with NJ		760,150
Total Additional Encumbrances and Program Commitments	**$**	**7,888,083**
Additional Projected Spending/Commitments		
Disbursements to Grantees	$	3,298,078
CSIT Program Costs/Salaries/Compliance Audit		1,267,530
NJEDA Admin Charge		396,087
Total Additional Projected Spending (not captured	**$**	**4,961,694**
Total Additional Costs (Program and Administrative)	**$**	**12,849,778**
Estimated Available Funds to CSIT prior to July 1, 2024	**$**	**0**

APPENDIX A

January 2023 Awardees – SBIR/STTR Direct Financial Assistance Awardees Profiles

Name of Company	Description	# Of Employees (at time of application)
Direct Funding Grants: ($25,000 / company)		
Atux Iskay Group, LLC (Princeton, Mercer County)	Atux Iskay is involved in consulting for drug discovery, pharmaceutical and medicinal chemistry, organic synthesis, and synthetic technology.	2
AuresTech Incorporated (Bridgewater, Somerset County)	AuresTech uses rigorous analysis and modeling and proven experimental experience to provide solutions to the hardest problems for aerospace and industrial R&D. Its areas of expertise are in cognitive communication, configurable computing, and machine learning.	3
Dina Pharma, Inc (Peapack and Gladstone, Somerset County)	Dina Pharma is advancing neurotherapies for central nervous system disorders, specifically Parkinson's disease.	2
Enalare Therapeutics (Princeton Borough, Mercer County)	Enalare Therapeutics, Inc. is a privately owned, New Jersey-based clinical-stage biopharmaceutical company dedicated to developing novel therapies for patients suffering from life-threatening acute respiratory and critical care conditions, including drug overdose, post-surgery respiratory depression, and apnea of prematurity in infants.	6
Farm to Flame Energy, Inc. (West Orange, Essex County)	Farm to Flame Energy makes carbon-neutral electricity.	5
Innovative AI Technologies, LLC (Newark, Essex County)	Innovative AI Technologies, LLC performs R&D in artificial intelligence, machine learning & deep learning, computer vision & video analytics, and pattern recognition.	1

Mallika Ashwin Maya Corporation, Inc. (Bridgewater, Somerset County)	Mallika Ashwin Maya Corporation, Inc. works with power router systems enabling the connection of multiple energy sources (solar/wind), and three phase grids using a single system multilevel resonant inverter circuit.	1
Neutroelectric, LLC (Camden, Camden County)	Neutroelectric, LLC is the developer of technologies for decarbonization in the transportation and energy production industries.	4
Paragon Flavor, Inc (Princeton, Mercer County)	Paragon Flavors, Inc d/b/a Paragon Pure develops novel ingredients that enhance the sustainability and nutrient content of packaged foods.	6
Regenosine Inc (Princeton, Mercer County)	Regenosine, Inc is a privately-held company focused on developing and marketing first-in-class musculoskeletal regenerative therapies. The proprietary platform technology harnesses the healing potential of the purinergic system. The current strategy is for osteoarthritis in animal and human health.	3
ShockTech (Mahwah, Bergen County)	ShockTech designs, manufactures, and tests shock attenuation and vibration isolation systems for the most demanding environments.	82
SingletO2 Therapeutics, LLC (New Providence, Union County)	SingletO2 Therapeutics is developing an energy-efficient water disinfection technology for use in aquaculture.	3
Misram, Inc (Holmdel, Monmouth County)	Misram, Inc provides a human-artificial intelligence teaming software platform for the Department of Defense and commercial customers that gathers and infers mission-critical intelligence from multi-sensor modalities.	2

Name of Company	Description	# of Employees (at time of application)
Bridge Funding Grants: ($50,000 / company)		
Bezwada Biomedical, LLC. (Hillsborough, Somerset County)	Bezwada Biomedical LLC develops, manufactures, and markets innovative proprietary absorbable monomers and polymers for various biomedical applications.	4
Impact Business Information Solutions, Inc (Princeton, Mercer County)	Impact Business Information Solutions is currently engaged in a solution to automate the de-identification of medical image data (i.e., remove Protected Health Information) so that it can be used for secondary research, primarily AI/ML	6.3
Optimeos Life Sciences, Inc (Princeton, Mercer County)	Optimeos is developing the next generation of gene therapies using drug delivery technology. The Optimeos team is developing a re-dosable, non-toxic gene replacement therapy for liver diseases such as Urea Cycle Disorders.	4.7
Venarum Medical, LLC (Eatontown, Monmouth County)	Venarum Medical is a privately held medical device company that develops medical devices using its patented integrated valve manufacturing process. The Canine INCONTrol Urethral Valve System (K9-ICT), a novel urethral implant solution for the treatment of urinary incontinence (UI), is Venarum's leading product under development.	5.8

APPENDIX B

January 2023 Awardees – Maternal and Infant Health R&D Seed Grant Awardee Profiles

Name	Description	# Of Employees (at time of Application)
Analytical Diagnostic Solutions (Mount Laurel, Burlington County)	Analytical Diagnostic Solutions is developing point-of-care testing for the determination of blood Phe from a finger or heel-stick blood sample.	7
ANMP LLC. (Westfield, Union County)	ANMP is partnering with the RWJ Medical School's Women's Health Institute and the NJ Black Women Physicians Association to launch a digital app called Technology Uniting Like-minded Physicians and patients (TULiP), designed to improve clinical racial competence and connect patients with racially congruent physicians.	3
Curio Digital Therapeutics (Princeton, Mercer County)	The company is developing a comprehensive mental health solution to provide emotional and behavioral support for women across the continuum of pregnancy, post-partum, and maternity leave.	9
Enalare Therapeutics (Princeton, Mercer County)	Enalare Therapeutics Inc. is a privately owned, New Jersey-based clinical-stage biopharmaceutical company dedicated to developing novel therapies for patients suffering from life-threatening acute respiratory and critical care conditions, including drug overdose, post-surgery respiratory depression, and apnea of prematurity in infants.	6
IntеguRX Therapeutics LLC (Califon, Hunterdon County)	IntеguRX is developing a transdermal drug delivery system and a gel for prevent nausea and vomiting.	2
Lactiga US Inc. (New Brunswick, Middlesex County)	Lactiga is developing a high-throughput immunoassay for detection and relative quantification of human milk antibodies, which are reactive against multiple circulating pathogens and are transmitted through breastfeeding.	3
Medifvu LLC (Mendham, Morris County)	MedifVu is developing a patient-focused digital healthcare application, i-Health Assist, which provides personalized analytics to engage patients in their treatment selection and remote monitoring of all co-morbidities.	1
Melinated Moms LLC.	Melinated Moms offers a digital platform to	1

(Trenton, Mercer County)	empower moms through advocacy, education, awareness, and entrepreneurship. Melinated Moms offers such services as training, speaking engagements, and a business network.	
Neo GeneStar, LLC (Warren, Somerset County)	Neo GeneStar is developing a non-invasive prenatal test for Rh D status in a fetus.	2
Neoneur LLC. (Pennington, Mercer County)	Neoneur is developing a patented neurocognitive assessment tool to be used during standard Neonatal Intensive Care Unit care, tracking at-risk infants' development by measuring critical oral feeding coordination skills.	5
Nutrivide, Inc. (North Brunswick, Middlesex County)	Nutrivide is developing the Nutrifier, a medical-grade pacifier that can store and dispense unit-dosed medications and micronutrients for use in infants to eliminate critical dosing errors across sites of care.	3
Portable Diagnostics System, Inc. (Robbinsville, Mercer County)	Portable Diagnostic Systems is developing a portable drug testing platform called the Integrity-1Analysis System to better address maternal and infant health challenges.	1
Ricovr Health, Inc. (Princeton, Mercer County)	Ricovr Healthcare is developing a point-of-care diagnostic platform device to perform rapid detection of disease biomarkers in the clinic and the home.	5
Stateam, LLC. (Somerset, Middlesex County)	Stateam is developing PrenatePlus, a supplement for women in prenatal stage and ProPlus, an infant formula for 1 - 3 months old using 100 percent organic plant-based ingredients only.	2
Vital Start Health, Inc. (Princeton, Mercer County)	Vital Start Health has developed the first maternal mental health platform using Virtual Reality and artificial intelligence for personalized, equitable, and clinically guided care.	5
Vitruviae (Nutley, Essex County)	Vitruviae's VIT-GLT (Glycolipid Therapeutic) is a bispecific pan-therapeutic for the treatment of maternal and fetal Cytomegalovirus (CMV). CMV is the #1 infection that causes birth defects in the United States. VIT-GLT addresses this problem by targeting glycan and lipid signatures of the virus that do not mutate.	3
Within Health Technologies, LLC (Hopewell, Mercer County)	Within Health Technologies is developing a non-invasive, vagus nerve and acupuncture point stimulator for the consumer wellness market.	6

APPENDIX C

Food/ Agriculture R&D Seed Grant Awardees (March 2023)

Name	Description	# of Employees (at time of application)
BioDome (Mount Laurel, Burlington County)	Biodome is developing individual indoor rooftop farming units	6
Geogreens (Chesilhurst, Camden County)	Geogreens is developing a solar energy capture system to harness unused indoor artificial light to supply electrical energy to farm facilities.	2.7
Paragon Flavors (Rocky Hill, Somerset County)	Paragon Flavors is developing gel-like oleogels, which enable the transformation of healthful polyunsaturated oils (e.g. rice bran oil) into solid forms that can replace unhealthy saturated fats (e.g. palm oil) in many food applications while replicating the same mouthfeel.	6
Tendo Technologies (Princeton, Mercer County)	Tendo is developing a novel method of measuring and monitoring the flow of liquids and gases using a specially designed MEMS silicon sensor that can more efficiently measure the flow of liquids at the nozzle tips of agricultural sprayers (used to apply water, pesticide, herbicide, fertilizer, etc.), allowing growers to improve yields, reduce costs, and reduce pesticide use.	8.2
Viocare (Princeton, Mercer County)	Viocare is developing "Living Well Navigator" (LWN), a software tool that aims to help users improve their diets, by emphasizing Social Drivers of Health (SDoH) that affect the food security of low-income people.	5.7

APPENDIX D

Pilot Clean Tech Demonstration Grant Awardee Profiles (2023)

Name	Description	# of Employees (at time of application)
BRISEA Group, Inc. (Parsippany-Troy Hills, Morris County)	BRISEA has developed nanobubble prototypes with NJIT for use in agriculture applications and novel microwave enable air filtration systems.	5.7
Consolidated Energy Design (Eatontown Borough, Monmouth County)	Consolidated Energy Design, Inc. is a Smart Grid and Smart Micro Grid Technology company that helps businesses reduce energy consumption.	3.4
Energy Research Company (Plainfield, Union County)	Energy Research Company conducts research in industrial energy and emissions related areas.	4.6
Farm to Flame (West Orange, Essex County)	Farm to Flame is developing a scalable, biomass based end-to-end electricity generation systems for communities in emerging markets.	4.5
Gridless Power Corporation (Pennsauken Township, Camden County)	Gridless has developed a prototype of a new battery management system which will make mid-sized battery packs more power efficient, cost effective, and long lasting.	21
GEOPONICA GREENS Hamilton City, Mercer County)	Geoponica is an indoor farm developing water re-use technology.	1.4
Hit Nano, Inc (Bordentown, Burlington County)	Hit Nano sustainably manufactures advanced cathode materials for lithium-ion batteries, using patented manufacturing processes which reduce production time, cost, energy consumption and environmental impact compared to conventional production methods.	3.5
Neutroelectric, LLC (Camden, Camden County)	Neutroelectric is developing an affordable and convenient transportation option for New Jersey's towns using fleet of shared, low-speed electric vehicles.	5.7
PolyGone Systems, Inc (Princeton Borough, Mercer County)	Polygon Systems is developing a tangible, affordable, and pragmatic technology explicitly for the sequestration of aquatic microplastic debris.	3.6
Princeton NuEnergy (Bordentown, Burlington County)	Princeton NuEnergy is developing an environmentally sustainable solution to completely direct recycle/upcycle end-of-life LIBs	24

	(lithium -ion batteries) to boost the total recycling efficiency.	
Swind Power, LLC (Princeton Junction, Mercer County)	SWIND is developing a vertical axis wind turbine.	2
Sunray Scientific (Eatontown Borough, Monmouth County)	SunRay Scientific is a global technology company providing breakthrough conductive adhesives for complex applications.	17
Wahaj Solar USA, Inc DBA WeSolar CSP (Princeton Borough, Mercer County)	WeSolar CSP is a solar thermal power company that designs and constructs scaleable modular CSP tower plants for utilities and various other companies employing cost effective and simple to assemble solutions for industrial steam, electricity generation, water desalination, and hybrid fossil fuel plants.	7.4
4.0 Analytics, Inc (Newark City, Essex County)	4.0 Analytics has developed vehicle management systems that continuously evaluates the engine, generating end user outputs that support reductions in fuel consumption and the ever-increasing cost of maintaining vehicles.	4.1

APPENDIX E

Clean Tech Research & Development (R&D) Voucher Awardee Profiles (2023)

Company	Description	# of employees (at time of application)
Brisea Group, Inc. (Parsippany, Morris County)	As an environmental engineering consultant firm, Brisea Group, Inc.'s main priority is providing assistance on and completing remediation projects.	7
Infostat (Hillsborough, Somerset County)	Infostat is developing novel materials to optimize the deposition of advance materials in optical coatings for visible light lasers, LEDs, and other energy-efficient semiconductor based photonic devices	7
Pollux Technologies (East Brunswick, Middlesex County)	Pollux Technologies is developing filter-monitoring technology that aims to reduce filter waste being manufactured and thrown away.	1
Princeton Nu Energy (Bordentown, Burlington County)	Princeton NuEnergy is developing an environmentally sustainable solution to completely direct recycle/upcycle end-of-life LIBs (lithium -ion batteries) to boost the total recycling efficiency.	24
Project Plastic, LLC (Princeton, Mercer County)	Project Plastic, LLC is developing a device that could contribute to the capturing and recycling of microplastics as well as create high-value chemicals that will avoid disposing plastic in landfills.	2
Queens Carbon, Inc. (Pinebrook, Morris County)	Queens Carbon's patented approach leverages hydrothermal technology to reduce the temperature of carbonate mineral processing to less than 1,000 degrees Fahrenheit, compared with typical calcination temperatures of greater than 1,800 Fahrenheit	6
Shutterbug Exchange (Jersey City, Hudson County)	Shutterbug Exchange is developing AI-powered machinery and advanced recycling techniques to decrease emissions and increase sustainability in solar panel production and usage.	2
Solais Ventures, LLC (Belle Mead, Somerset County)	Solais Ventures, LLC is developing Biochar as partial replacement of cement and/or aggregates.	2

APPENDIX F

Catalyst Research & Development (R&D) Voucher Awardee Profiles (2023)

Company	Description	# of employees (at time of application)
Atux Iskay Group, LLC (Princeton, Mercer County)	Atux Iskay Group is involved in consulting for drug discovery, pharmaceutical and medicinal chemistry, organic synthesis, and synthetic technology.	2
Biotech Support Group, LLC (Monmouth Junction, Middlesex County)	Biotech Support Group is a leading provider of proteomic and genomic sample prep and enrichment products and services.	3
Discogen, LLC (Harrington Park, Bergen County)	Discogen, LLC is developing a noninvasive technology for the treatment of spinal disc degeneration.	1
E-Sentience, Inc (Newark, Essex County)	E-Sentience makes electrochemical sensors that measure a variety of biomarkers in sweat and saliva in real time.	2.9
Graphene Layers (North Brunswick, Middlesex County)	Graphene Layers is a manufacturer of graphene, who produce both cost-efficient and high-purity graphene with highly innovative graphene composite products.	2.1
Kathera Bioscience, Inc. (Union, Union County)	Kathera Bioscience, Inc. is developing therapies to treat life-threatening fungal diseases by validating essential fungal enzymes as new and patentable drug targets.	3
NanoTech Pharma, Inc (Hillsborough, Somerset County)	NanoTech Pharma is developing innovative new lipid nanoparticle drug delivery systems and technologies to deliver existing medications and vaccines more effectively.	12.6
Regenosine (Princeton Junction, Mercer County)	Regenosine is developing a first-in-class liposomal adenosine product in a proprietary formulation for effective, prolonged treatment and regenerating cartilage in joints in patients with established osteoarthritis (OA).	3.6
Ricovr Healthcare (Princeton Borough, Mercer County)	Ricovr Healthcare will be using non-invasivele measure THC (psychoactive component of Cannabis). They will be focusing on the use of saliva as a test medium.	8
RizLab Health (Princeton North, Mercer	RizLab Health is building a point of care diagnostic white blood cell analyzer to revolutionize the	3

County)	standard of care in blood testing for patients.	
Skinaxis, LLC (Cedar Knolls, Morris County)	Skinaxis, LLC is working towards a new Flow Modification Device (ModiFlow) to minimize turbulence in the aerosol flow and potentially reduce medication deposition in spatial barriers.	2
Tendo Technologies, Inc. (Princeton Junction, Mercer County)	Tendo Technologies is currently developing a unique semiconductor-based flow sensing technology that is compact, accurate, and scalable.	7
UCHU Biosensors, Inc. (Newark, Essex County)	UCHU Biosensors, Inc develops a continual health monitoring platform that is mounted on teeth and tracks health information through saliva.	2.3

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