



**Division of  
Science, Technology  
& Innovation**

## **2022 Annual Report**

Empire State Development

Division of Science, Technology & Innovation (NYSTAR)

## Contents

Introduction .....	3
Federal Awards .....	4
Requests for Proposals .....	4
Events.....	6
Innovation Hot Spots & NYS Certified Business Incubators.....	6
Matching Grants Leverage Program .....	8
Science + Technology Law Center.....	8
Fields of Technology with Significant Potential .....	9
Impacts Methodology .....	10

## Introduction

Empire State Development (ESD)'s Division of Science, Technology and Innovation (NYSTAR), part of the state's economic development agency and housed within its Division of Small Business and Technology Development, is tasked with advancing technology innovation and commercialization in New York State. NYSTAR plays an integral role in ESD's economic development strategy through both state and federally funded programs, impacting the overall economic resiliency of the state as well as individual companies, jobs, academic institutions, and communities. This report covers the period of July 2021 through June 2022.

Through state funding, NYSTAR oversees funding for university research centers and provides assistance to businesses through NYSTAR's Centers of Excellence, Centers for Advanced Technology, Innovation Hot Spots, New York State Certified Business Incubators, Science + Technology Law Center, and other assets. This approximately \$55 million portfolio of state-supported high-tech assets touches all points of the state's innovation economy, including but not limited to advanced materials, biotech and life sciences, renewable energy, materials processing, optics and imaging, software and digital media, and electronics technologies.

On the federal level, NYSTAR was competitively designated by the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership (MEP) as New York MEP (NYMEP). Through this designation, NYSTAR supports 11 centers, with about \$10 million annually in federal and state funding, that assist manufacturers.

NYSTAR plays four key roles in supporting innovation ecosystem in New York State:

1. Administering programs to ensure they are delivering established goals and purpose;
2. Encouraging collaboration to accelerate technology and company growth;
3. Creating new initiatives to further support innovation and fill gaps in available company assistance; and
4. Attracting additional federal and other funding into New York State by providing matching grants, assisting with consortium-building, highlighting companies seeking investments and occasionally applying directly for federal funds.

Thanks in part to the efforts of NYSTAR and its partners, New York State ranks highly for most measures of science and engineering strength, the strongest indicators of research and innovation, according to the [NSF's Science and Engineering State Profiles](#).

In addition to this Annual Report, NYSTAR releases reports for three individual programs periodically throughout the year. NYSTAR will be publishing separately issued reports for the following programs:

- Centers for Advanced Technology (CAT) (covering 2020-2021 contract years)
- Centers of Excellence (COE) (covering 2020-2021 contract years)
- Manufacturing Extension Partnership (MEP) (covering 2021)

This report covers NYSTAR's remaining programs, initiatives, and updates not covered in these reports. Information included in this report includes: Federal Awards; Requests for Proposals (competitions); Innovation Hot Spots & Certified Business Incubators Program; Matching Grants Leverage Program; Science + Technology Law Center; and a summary of fields of technology with significant potential for the state's economy.

## **Federal Awards**

One of NYSTAR’s priorities is attracting federal funding into New York either directly through the division or funded centers and partners. Below is a summary of nearly \$7.6 million in federal funding awarded during the timeframe covered in this report.

### **NIST MEP**

During this period, NYSTAR continued work under its MEP designation by NIST MEP. The designation is for five years and funded at \$6,599,660 annually by NIST MEP and \$3,773,000 in state funding. As NYMEP, NYSTAR supports a network of 11 organizations that provide growth and innovation services to small and mid-sized manufacturers in every corner of the state to help them create and retain jobs, increase profits, and improve efficiency (NYSTAR issued a separate report covering the NY MEP program impacts for the 2021 contract year.) NYSTAR has held this designation for over twenty years. The current designation runs through 2025.

### **Economic Development Administration**

In 2021, NYSTAR secured \$1,000,000 in funding from the U.S. Economic Development Administration to fund multiple studies providing current, market-grounded information about New York State’s strengths and opportunities for expanding its advanced industry clusters and generating long-term follow-on economic growth. These studies included: advanced industry clusters; supply chain analysis; top ten (10) emerging technology fields; and semiconductor assets. The grant period runs from October 1, 2021, through March 31, 2024.

## **Requests for Proposals**

NYSTAR held two competitions during this reporting period.

### **Hot Spot and Incubator**

In CFA Round 11, NYSTAR held a competition under the Innovation Hot Spots and NYS Certified Business Incubators programs (see further information below) with awardees receiving a five-year designation that includes operating (working capital) funding from NYSTAR. Fifteen designations expired (five (5) Hot Spots and ten (10) Incubators) and were included in this competition. Out of the nine Incubator awardees, three (3) entities were new to the program.

The chart below lists all awardees, their region, and funding level.

Region	Designation	Applicant	Funding
Capital Region	Incubator	Tech Valley Center of Gravity	\$125,000
Central NY	Hot Spot	Center State CEO	\$250,000
	Incubator	Upstate Medical University	\$125,000
Finger Lakes	Hot Spot	Finger Lakes Innovation Hotspot	\$250,000
	Incubator	Cornell Agriculture Food Technology Park (New)	\$125,000
Mohawk Valley	Incubator	Griffiss Institute (New)	\$125,000
New York City	Incubator	New York University	\$125,000
	Incubator	Ichan School of Medicine at Mt. Sinai	\$125,000
	Incubator	Downstate Technology Center	\$125,000
	Incubator	Communitas America (New)	\$125,000
North Country	Hot Spot	Shipleigh Center for Innovation at Clarkson University	\$250,000
Southern Tier	Hot Spot	Cornell University	\$250,000
	Incubator	Binghamton University	\$125,000
Western NY	Hot Spot	University at Buffalo	\$250,000

### Advanced Industry Cluster Studies

Through the federal EDA funding discussed above, NYSTAR released RFPs and selected three organizations to perform four (4) studies providing current, market-grounded information about New York State’s strengths and opportunities for expanding its advanced industry clusters and generating long-term follow-on economic growth.

The four (4) studies are:

**\$275,000 for “Advanced Industry Clusters” Study:** This study will map and analyze high-value, high-multiplier industry clusters across the State of New York to identify actions for high-impact cluster-based economic development activities for the state and individual regions. MRB Group was selected for this study.

**\$340,000 for “Supply Chain Analysis” Study:** This study will examine statewide supply chain and logistics assessment to identify high-impact activities for increased efficiencies and supply chain infill. MRB Group was selected for this study.

**\$110,000 for “Top Ten Emerging Technology Fields” Study:** This study will identify top ten (10) emerging technology fields for which New York State is well-positioned to advance a position of global leadership and generate related economic growth and identify activities and strategy to leverage each technology field. Newmark Economic Development Consulting was selected for this study.

**\$75,000 “Semiconductor” Study:** This study will highlight innovation ecosystem investments, site development investments, skills assessments, workforce development programming, and efficient leveraging of future Federal funding. NYS Economic Development Council was selected for this study.

## Events

### Invest NY Series

NYSTAR partnered with Upstate Capital to host a series of pitch events that are high quality opportunities for investors to connect with startups and companies. Each event is focused on a specific industry and gives early-stage companies an opportunity to pitch to investors from all over the world. Additionally, these pitch events highlight NYSTAR (and its network of resources) to build awareness of expertise and assistance available to companies and investors. Listed below are three (3) events that have been held since the last report:

Investment NY Series NYSTAR & Upstate Capital	September 16, 2021	October 14, 2021	March 3, 2022
	Women's Health	Climate Tech	Health
Attendees	67	106	135
Startups Pitched	11	13	20
Investors Participated	18	38	30
Out of State Investors	8	18	5

### Innovation Hot Spots & NYS Certified Business Incubators

The New York State Certified Business Incubator and Innovation Hot Spot Program provides financial support for certified incubators in the state to expand their services and reach a greater number of early-stage companies. These competitive designations are for five (5) years. The support offered at individual designees varies, but generally include the following: physical space; shared administrative staff; access to capital; coaching; mentoring; networking connections; prototype development; and access to other technical services. In addition, Innovation Hot Spots are charged with coordinating regional entrepreneurial ecosystems and can offer certain tax benefits to client businesses. Newly designated incubators (as highlighted in the above Requests for Proposals section) are not included below as they have not completed a full year of operations. Additionally, impacts are gathered after assistance and there is a delay in realizing generated impacts and gathering data. In this report, NYSTAR staff worked with designated Hot Spot and Incubators to the process of capturing and reporting data to make these reports

timelier. Below, NYSTAR is reporting on two years of impacts as a result of this effort. Future reports will only report one year of impacts that will reflect the results of assistance provided in the previous year.

Below are impacts from contract years 2020-2021 and 2019-2020.

Region	Type	Entity	Annual Funding	2020-2021 Impacts			2019-2020 Impacts		
				New Jobs	Retained Jobs	Total Non-job*	New Jobs	Retained Jobs	Total Non-job*
Capital	Hot Spot	Innovate 518 at University of Albany	\$250,000	1.0	0.0	\$1,627,481	2.0	0.0	\$1,476,272
Capital	Incubator	Biomedical Accelerator and Commercialization Center at Albany Medical Center	\$125,000	2.0	19.0	\$2,082,000	3.0	30.0	\$1,063,573
Capital	Incubator	Tech Valley Center of Gravity	\$125,000	0.0	0.0	\$0	16.0	11.0	\$3,238,985
Central NY	Hot Spot	Tech Garden at CenterState CEO	\$250,000	97.5	155.0	\$33,885,719	137.5	214.0	\$30,411,649
Central NY	Incubator	Biotech Accelerator at Upstate Medical	\$125,000	33.0	23.8	\$53,579,633	26.0	59.0	\$14,185,160
Central NY	Incubator	Hamilton Partnership	\$125,000	2.0	13.0	\$55,000	25.0	54.0	\$485,000
Finger Lakes	Hot Spot	NextCorps	\$250,000	11.0	26.0	\$2,107,280	16.0	22.0	\$5,589,667
Long Island	Hot Spot	Long Island Innovation Hot Spot	\$250,000	9.5	35.0	\$5,241,981	16.0	21.0	\$6,094,670
Long Island	Incubator	Entrepreneurship & Technology Innovation Center at New York Institute of Technology**	\$125,000	0.0	0.0	\$0	0.0	0.0	\$0
Long Island	Incubator	IdeaHub at Hofstra University	\$125,000	20.0	12.0	\$1,860,635	20.0	12.0	\$1,860,635
Long Island	Incubator	Stony Brook University	\$125,000	28.0	37.5	\$9,086,029	18.5	25.0	\$3,934,688
Mid-Hudson	Hot Spot	BioInc at New York Medical College	\$250,000	3.0	23.0	\$3,974,108	1.0	4.0	\$13,810,335
Mid-Hudson	Incubator	Hudson Valley Center of Innovation / Accel7	\$125,000	17.0	27.0	\$2,951,000	16.0	1.0	\$1,871,000
Mohawk Valley	Hot Spot	ThinCubator at Mohawk Valley Community College	\$250,000	14.0	5.0	\$476,397	7.0	2.0	\$748,827
Mohawk Valley	Incubator	Griffiss Institute	\$125,000	50.0	35.0	\$11,056,644	12.0	37.0	\$3,513,672
Mohawk Valley	Incubator	Mohawk Valley Farm & Food Business Incubator at SUNY Cobleskill	\$125,000	5.0	3.0	\$3,191,000	5.0	3.0	\$3,191,000
New York City	Hot Spot	Hub for Innovation and Entrepreneurship (NYCRIN) at CUNY	\$250,000	11.0	10.0	\$12,559,945	9.0	10.0	\$13,565,946
New York City	Incubator	***Downstate Biotech Incubator and BioBAT at Downstate Medical	\$125,000	136.0	212.0	\$393,806,886	81.0	171.0	\$336,863,132
New York City	Incubator	Entrepreneur Space Incubator at Queens Economic Development Corporation	\$125,000	17.0	16.0	\$2,193,480	19.0	41.0	\$3,680,716
New York City	Incubator	NYDesigns at LaGuardia Community College	\$125,000	11.0	21.0	\$1,210,273	14.0	17.0	\$1,219,389
New York City	Incubator	Tandon Future Labs at NYU	\$125,000	0.0	0.0	\$0	132.0	237.0	\$62,796,513
North Country	Hot Spot	Shipley Center for Innovation at Clarkson University	\$250,000	6.0	0.0	\$8,511,200	26.5	0.0	\$15,918,297
Southern Tier	Hot Spot	Southern Tier Startup Alliance	\$250,000	200.5	0.0	\$51,851,182	152.5	0.0	\$54,979,212
Southern Tier	Incubator	IncubatorWorks - Southern Tier	\$125,000	6.5	55.0	\$1,660,989	2.0	5.0	\$615,033
Southern Tier	Incubator	Koffman Southern Tier Incubator at Binghamton University	\$125,000	36.0	415.5	\$108,988,344	197.0	0.0	\$16,278,976
Southern Tier	Incubator	Rev Ithaca Startup Works at Cornell University	\$125,000	175.5	0.0	\$46,897,566	134.5	0.0	\$48,979,212
Western NY	Hot Spot	WNY Incubator Network (WIN) at University at Buffalo	\$250,000	245.0	89.0	\$33,544,333	258.0	85.0	\$33,441,979
Western NY	Incubator	Fredonia Technology Incubator (FTI)	\$125,000	8.0	3.0	\$1,233,626	4.0	8.0	\$272,280
Western NY	Incubator	IncubatorWorks - Allegany	\$125,000	14.0	39.0	\$1,603,812	0.0	4.0	\$362,321
<b>TOTALS</b>				<b>1,159.50</b>	<b>1,159.50</b>	<b>\$795,236,543</b>	<b>1,350.50</b>	<b>1,073.00</b>	<b>\$680,448,139</b>

\*Total Non-job impacts includes the following metrics: Increased Revenues; Investments Obtained; Cost Savings; Grants Received; Capital Improvements

\*\*No impacts reported. Extenuating circumstances were a factor in these reporting periods that are reflecting in zero impacts reported.

\*\*\*An example of factors driving large impacts, Modis Therapeutics, Inc. was acquired by Zogenix, Inc. in September 2019 for \$250,000,000. The Downstate Incubator’s support was instrumental in the early formation and development of the company. This amount was included in Downstate’s impacts for 2019-2020 report. Large federal awards can also drive high impacts. In 2020-2021, Downstate companies were awarded numerous grants that included amounts of \$130m, \$83m, and \$34m. Many other grants in lower amounts were realized.

### Matching Grants Leverage Program

NYSTAR reviews and coordinates requests for New York State matching grants and support letters to strengthen applicants’ proposals to federal agencies, foundations, and other grant-making organizations. Higher education and not-for-profit research institutions in New York State are eligible to apply for these state matching funds. The purpose of this program is to attract more federal R&D funding to support technology development and commercialization efforts in New York State. A maximum commitment of \$1 million is available through this program and requires at least \$2 federal per \$1 state funding committed. In the period covered by this report, NYSTAR provided matching grant commitments to the following successful federal awardees:

Awardee	NYSTAR Award	Federal Award	Federal Agency	Fiscal Year
Rochester Institute of Technology	\$334,355	\$779,982	Foundation for Food & Agriculture Research	21-22
Columbia University	\$394,500	\$16,694,453	National Science Foundation	21-22
Health Research (Roswell Park)	\$504,610	\$5,593,664	National Cancer Institute	22-23
New York University	\$338,518	\$907,743	Office of Naval Research	22-23
<b>TOTALS</b>	<b>\$1,571,983</b>	<b>\$23,975,842</b>		

### Science + Technology Law Center

NYSTAR is the primary funding source for the New York State Science & Technology Law Center (STLC), housed at Syracuse University College of Law. This organization provides free legal research, education, and information to entrepreneurs and companies to help commercialize new technologies from lab to market. From market landscapes, intellectual property protection, licensing options, and to potential funding sources, STLC has helped scores of companies and institutions make their technology vision become a commercial reality. Syracuse University was awarded a STLC re-designation in a 2017 competition held by NYSTAR for a period extending through March 2023.

Typical STLC clients include start-up and established tech companies, as well as entrepreneurs, with the STLC providing additional services to research centers, technology transfer offices, and incubators. Key areas of service include:

- **Patent landscapes and trademark searches** – STLC’s research team performs patent and trademark searches providing valuable information that a client can share with an attorney to provide the groundwork for drafting claims and offering opinions on patentability. STLC also provides more generally applicable informational literature on intellectual property for prospective inventors seeking to be proactive in protecting their IP rights.



- **Regulatory overviews** – STLC provides analysis of both state and federal regulations, as well as industry-specific standards and certifications that are critical to market entry. By providing early and accessible regulatory insight, businesses are better equipped to remain in New York, create jobs, and spur innovation.
- **Market research and segmenting** – Clients receive in-depth analysis into who the customers are in a given market, and for innovations with multiple applications, which markets can offer the most rewards. Examples of previous projects include identifying sell points for a specialized gastroenterology therapy within the EU and the U.S. medical systems, exploring ideal sub-segments of commercial buyers for cutting edge lawn equipment, and primary market research such as surveys to determine what feature sets and price points appeal to various demographics for marketing new speaker technologies.
- **Competitive landscape** – Entrepreneurs and researchers attempting to commercialize new technology rarely know the full scope of their intended market’s competition. STLC’s competitive landscape analysis provides clients with a breakdown of potential competitors and identifies significant product differentiators, enabling clients to find underserved consumer segments and areas where the prevailing technology is vulnerable to disruption or possible licensing opportunities.
- **Commercialization analysis** – Many inventors and entrepreneurs hold valuable patents but are unclear on how to bring a product to market. STLC conducts market research and advises on potential business models, licensing strategies, or the appropriate distribution/go-to-market strategy. Clients receive analysis of competing business models based on market and team factors, promoting the development of an informed strategy.

In addition to research, STLC has continued its education and outreach efforts through participation in pre-seed workshops, FuzeHub Solutions Forums, conferences and sponsorships, publication of guidebooks, webcasts, listings of New York State patent agents and patent law firms by region, and a monthly *Innovation Review* newsletter. STLC also collaborates with a network of Technology Commercialization Clinics located at research institutions and business schools throughout the state in order to best serve its clients. During the 2020-2021 contract period, STLC produced 52 market research and segmenting reports and engaged in 6 regulatory overviews.

### ***Fields of Technology with Significant Potential***

NYSTAR, as highlighted above, has engaged a consultant to identify fields of technology with significant potential that will likely be included in the 2023 NYSTAR Annual report.

## Impacts Methodology

The impacts reported above are defined as:

**“New jobs”** refers to permanent, full-time positions created in the course of business expansion resulting from the NYSTAR’s program efforts.

**“Retained jobs”** are those that may be at risk when companies consider reducing staff or relocation because of high operating costs, incentives offered by another location, or production contractions. If a company credibly substantiates that jobs were at risk and that the collaboration with a NYSTAR-supported center was a significant reason for their retention, such jobs are counted as retained.

**“Economic impact”** or **“non-job impact”** includes the following impacts reported by companies served by CATs, COEs, Innovation Hot Spots, Certified Business Incubators, MEPs or other NYSTAR. Note that it does not reflect any increase in paid wages or the multiplier effects of these impacts, and therefore understates total cumulative changes in employment, earnings, and output in New York State attributable to the efforts of these programs. Larger reported impacts are subjected to greater scrutiny by NYSTAR and at times require confirmation. NYSTAR follows a threshold formula for determining the necessary level of evaluation.

- **Increased revenues:** NYSTAR-supported assets frequently collaborate in new product development or existing product improvement that directly increases client revenues. In extraordinary circumstances, NYSTAR may credit impact for retained sales with sufficient documentation that are due to the center’s work, the company was able to retain a specific customer that it would have otherwise lost.
- **Cost savings** realized by the company as a result of a company’s collaboration with a NYSTAR-supported center, which typically accrue from production process improvements, the value of accessing specialized equipment, expertise, or analytical testing, and other production/research savings.
- **Grants Received** by the company. These include any non-New York State sources of funds. They may include non-NYS government funds, for example federal sources like the Small Business Innovation Research program. They may also include venture capital and other business investments. There must be a demonstration that the NYSTAR-supported center played a substantive role in helping the company obtain the funds.

NYSTAR follows documented economic impact review procedures. For most programs, impacts reported to and credited by NYSTAR meet the following conditions:

- Occurred during the reporting period and not previously credited to that center;
- Actual impact rather than projected;
- Occurred within and benefited a company in New York State;
- Resulted from collaboration with a NYSTAR-funded center; and
- Documented with a company letter of attestation and other substantiating materials as noted above.