



NEW JERSEY  
**BIOSCIENCE CENTER**  
AT NORTH BRUNSWICK

NJ BIOSCIENCE CENTER

# INCUBATOR IMPACT STUDY

JUNE 2024

**NJEDA**

ECONOMIC DEVELOPMENT AUTHORITY





June 17, 2024

Hello -

I am delighted to share the enclosed report, which details the economic impact of the New Jersey Economic Development Authority's (NJEDA's) Incubator at North Brunswick, or Bioscience Center Incubator (BCI), which has served as a hub of life sciences entrepreneurship for the state for 20 years. Since 2018, under the leadership of Governor Phil Murphy, the BCI has evolved to fully address the challenges faced by those breaking into the biopharma industry today, offering an ideal environment for up-and-coming companies. I encourage you to take a few minutes to review the BCI report, which provides a window into this incredibly unique resource.

The Garden State has a long and storied history in the biopharmaceutical sector, with notable contributions from New Jersey innovators ranging from treatments for cancer and various other insidious diseases, to vaccines and powerful diagnostic tools. Many of these developments have taken place at the BCI, and many BCI graduates have become partners to legendary New Jersey-based pharmaceutical industry giants, thereby playing a role in their successes.

As important as these scientific contributions are globally, this report details the remarkable impact of the BCI on New Jersey's economy, and the quality-of-life of countless New Jerseyans. The work at the BCI has resulted in thousands of jobs created by incubator graduates, billions in industry investment, state and local tax revenue generated, and immeasurable ancillary economic activity driven by successful emerging companies.

New Jersey's talent pool is at the heart of its leadership in innovation, with more scientists and engineers per square mile of anywhere in the world. And New Jersey's network of esteemed academic research institutions provides a path for talented students to channel their abilities into productive, meaningful careers. New Jersey's universities have been incredible partners to the state, and have helped to fuel the growth of the life sciences and other emerging sectors that are essential to achieving Governor Murphy's vision for the state's innovation community.

On behalf of the NJEDA, we are grateful for the partnership of the legislature, our academic partners, industry leaders, and the entrepreneurs that have entrusted the BCI as a place to bring their big ideas to life. I appreciate our Consulting Team, BJH Advisors and East Egg Project Management, for helping to tell BCI's story and its impact on our state and residents. We are immensely proud of the BCI and what it has produced, and appreciate your commitment to and interest in innovation in New Jersey.

Sincerely,

A handwritten signature in dark ink, appearing to read "Tim Sullivan". The signature is fluid and cursive, with a long, sweeping underline.

Tim Sullivan  
Chief Executive Officer

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# 1. EXECUTIVE SUMMARY AND KEY TAKEAWAYS

Twenty years after the founding of its bioscience incubator in North Brunswick, New Jersey, the New Jersey Economic Development Authority (NJEDA) commissioned a report seeking to understand the economic impacts of the incubator and the companies it has hosted. To that end, BJH Advisors, supported by East Egg Project Management (together, the “Consultant Team”), performed a comprehensive study to both quantitatively and qualitatively assess these impacts.

Overall, this analysis found that the Incubator at North Brunswick, or Bioscience Center Incubator (BCI), has been an integral resource for New Jersey’s life sciences sector and has had a positive impact on the state’s overall economy in terms of jobs, state and local tax revenue, and total economic output.

## BCI AT A GLANCE



TOTAL OUTPUT IN NEW JERSEY

**\$9.1 billion**

*attributable to BCI tenants and graduates since 2002*



ANNUAL EMPLOYMENT IN NEW JERSEY

**2,744 jobs per year**

*direct, indirect, and induced — average based on BCI tenants and graduates from 2019–2023*



TOTAL LABOR INCOME IN NEW JERSEY

**\$4 billion**

*attributable to BCI tenants and graduates since 2002*



STATE AND LOCAL TAX REVENUE

**\$32 million**

*attributable to BCI tenants and graduates in 2023*



PUBLIC OFFERINGS

**\$743 million**

*raised by BCI graduates since 2002*

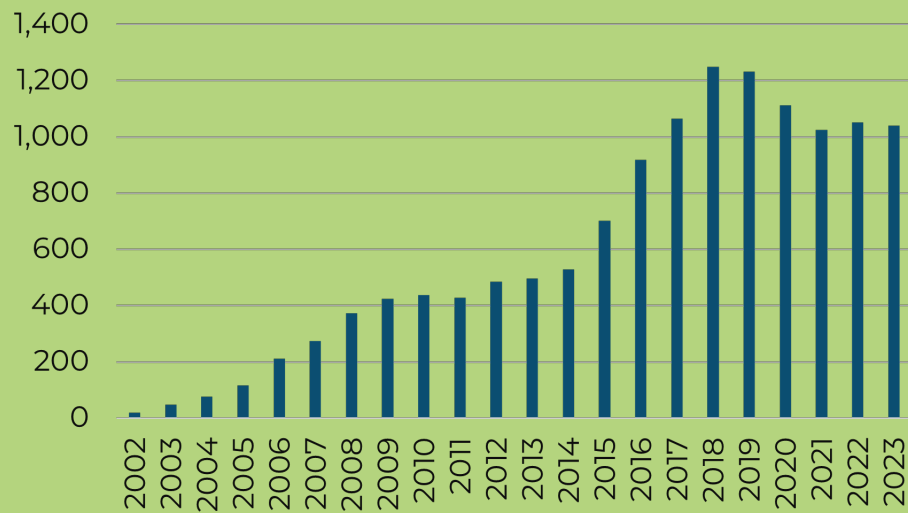
As part of this study, the Consultant Team interviewed 18 graduates and current residents of BCI. Interviewees were of one voice in saying that the incubator contributed to the success and growth of their companies, with the most factors cited being BCI’s staff, resources, and programming, in addition to the facility’s space and equipment.



Of the 96 companies that have graduated from the incubator since 2002, the majority continue as New Jersey companies or maintain a presence and employment in New Jersey.

The lower number of direct jobs seen between 2021 and 2023 can largely be attributed to two incubator graduates, Amicus Therapeutics and Chromocell, that experienced relatively significant decreases in their New Jersey-based employment during this period.

**Figure 1: Number of Direct Jobs Attributable to Incubator Resident Companies and Graduates in New Jersey**



\*Note: 2023 numbers may be incomplete due to delays in employment reporting



The Incubator at North Brunswick provides critical resources toward the achievement of Governor Phil Murphy's vision for positioning New Jersey as a global leader in life sciences innovation.

## 2. History and Description of NJBC

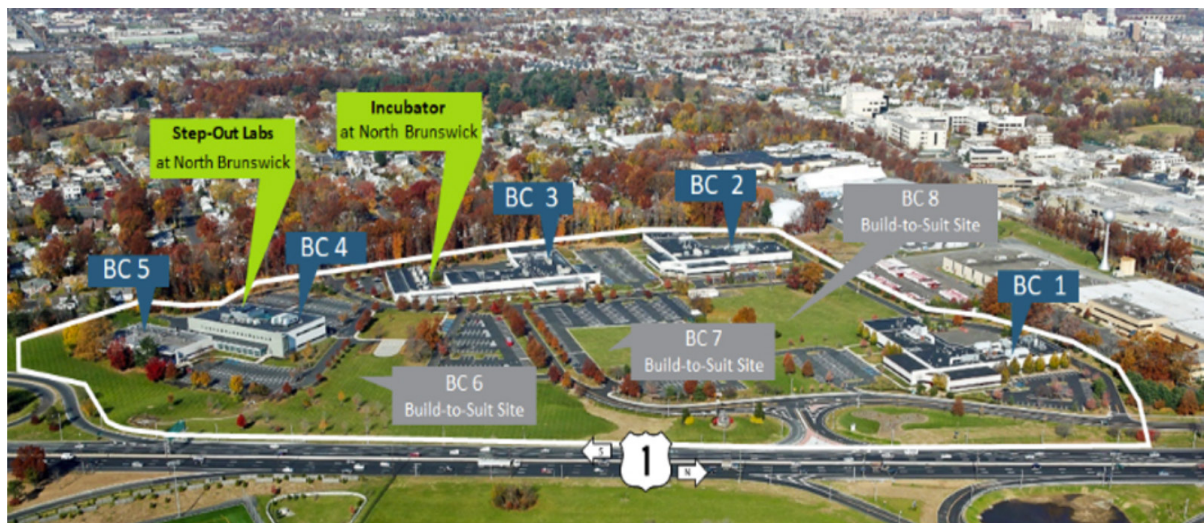
The Incubator at North Brunswick is a 46,105 square-foot biotech facility that is part of a 50-acre research park known as the New Jersey Bioscience Center (NJBC). Located on Route 1 in North Brunswick, it is part of New Jersey's "Research Corridor" that includes Rutgers University and New Jersey Medical School, Princeton University, and several major biopharma companies.

New Jersey has long been synonymous with the biopharmaceutical industry; it is home to 14 of the world's 20 largest pharma companies and now more than 400 biotechnology companies. The life sciences ecosystem employs 115,000 people here and has one of the country's largest concentrations of science and engineering talent.<sup>1</sup> Middlesex County, where NJBC is located, has the largest life sciences workforce in New Jersey, at about 11,250 people.<sup>2</sup>

The NJBC campus was originally home to Johnson & Johnson. In 1999, NJEDA, the State's economic development agency, acquired the campus and in 2000 formed a limited liability company, with the AFL-CIO Business Investment Trust as an investment member, to fully develop the campus as the Technology Centre of New Jersey (TCNJ). TCNJ's mission was to serve

the growing science and technology sectors, continuing the New Jersey tradition of innovation from the days of Thomas Edison and James Wood Johnson in the 1800s.

Since 1999, NJEDA has invested \$70 million into developing NJBC; of this amount, \$8,201,331 was related to development of the incubator. In 2002, NJEDA completed the development of the incubator, and it was originally named Commercialization Center for Innovative Technologies (CCIT); many graduates fondly refer to the facility as CCIT. The incubator was the second building built on the campus; it was 20,000 sf in size and consisted of seventeen 800-sf wet and dry laboratories plus office, storage, and conference space. NJEDA initially contracted with NJIT to manage and operate the incubator, with Stash Lisowski as the first CCIT director and Rosa Szeliga, who is still on staff, as program officer. In 2005, the facility was expanded by 26,000 SF with the addition of ten more labs and support spaces; the incubator offers the most wet lab space of any incubator in New Jersey. The cumulative operating support that NJEDA has provided the incubator through 2023 is \$13,656,225; combined with the development cost, this represents a total NJEDA investment of \$21,857,556 in the incubator.



<sup>1</sup> ChooseNJ.com

<sup>2</sup> Genetic Engineering & Biotechnology News, 2022: *Middlesex County, NJ: Where Life Sciences Companies Thrive*

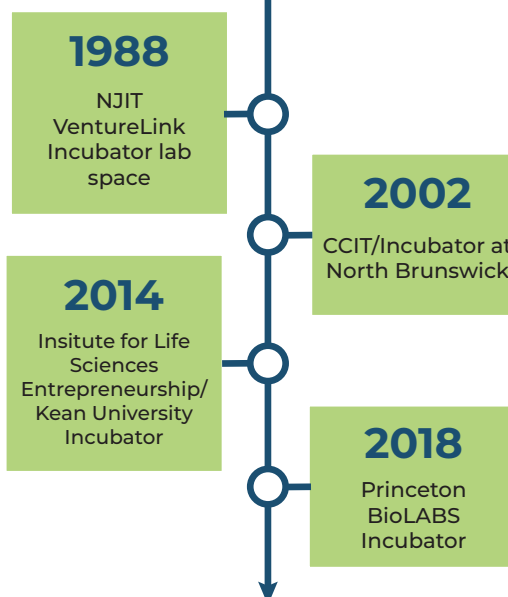
The incubator seemed to be a success almost out of the gate. Amicus Therapeutics was the first CCIT graduate; they had raised \$55 million in venture funding before leaving the facility in 2005, IPO'd at \$86 million, and currently has a market cap of \$3.73 billion. Other early success stories included GENEWIZ and Advaxis.

In 2008, the National Business Incubation Association (NBIA) named the incubator (then known as CCIT) as a Soft Landings International Incubator, a designation given to facilities that have demonstrated success helping non-domestic firms enter the U.S. market. At that time, in the six years since its founding, the incubator's tenant companies had generated more than \$130 million in revenues and received \$385 million in outside funding. The incubator had graduated more than 40 companies and could also boast collaborations with six of the eight Ivy League universities as well as with Memorial Sloan Kettering in New York and MD Anderson Cancer Center in Texas.

**"I've got nothing but good things to say; the entire concept is phenomenal"**

**- Dr. Joachim Kohn,  
Osseoprint 3D**

In 2018, NJEDA rebranded the campus and the incubator in order to emphasize its focus on biotech and life sciences. The Technology Centre of New Jersey became the New Jersey Bioscience Center. The incubator is now known as the Incubator at North Brunswick or BCI.



An important need for biotech startups that outgrow an incubator is affordable, larger-format lab space that still provides shared equipment, support services, and quality infrastructure. Too many markets across the US lack this tier of "graduation" or "step-out" space. NJBC recognized this need, and in June 2018 opened the Step-Out Labs at North Brunswick, which offer intermediate lab and office space for companies that are too mature for BCI but still too young and small for their own independent facility. The Step-Out Labs, next door to BCI on the NJBC campus, targets all sub-sectors of the biotechnology industry and is open to graduates of BCI as well as other well-funded life science firms that are ready for intermediate space. Today the NJBC campus has close to 300,000 sf across five buildings, and there are three site pads that are ready to be built upon at the appropriate time.



*Grand opening and ribbon cutting for Adlai Nortye's US headquarters located in the Step-Out Labs at North Brunswick*



### 3. Report Methodology

#### Qualitative Assessment of Companies

Between September and November 2023, the Consultant Team interviewed the leadership of 18 companies that are either graduates or current residents of BCI. These companies were identified by BCI's current leadership as "success stories" due to their product approval, company growth, successful capital raises, advantageous acquisitions, and/or public offerings. The company interviewees included 12 graduates and six current BCI residents. Of the graduates, there were three companies that entered the incubator before 2010, including GENEWIZ, which was one of BCI's (then CCIT) first residents in 2002. Four interviewees entered the incubator in 2014, the best-represented entrance year, and another four of the interviewees entered between 2016 and 2018 and successfully graduated.

The company interviewees are noted by asterisk in Appendix A.

#### Employment and Company Status

To estimate employment and business status for BCI's resident companies and graduates, BJH utilized public and private databases and the expertise of BCI employees. In many cases, the Consultant Team had only partial employment data and therefore operated on the following assumptions to ensure that final numbers were accurate and consistent. Where possible, the Consultant Team attempted to be conservative in its assumptions.

- Prioritization of data sources in case of conflicting information:
  1. Direct information from business
  2. Incubator employees
  3. Private industry data sources
- When there were gaps in employment data between years, the Consultant Team used midpoints to calculate the gap years.

- When the Consultant Team did not have start/endpoint employment data for a company, the Consultant Team assumed their last recorded employment count has stayed constant up until their most recent year still in business.
- When employment data was unavailable for the year that the business entered the incubator, the Consultant Team assumed two employees for the first year based on BCI averages.
- When employment data was unavailable for the year that the business graduated from the incubator, the Consultant Team made assumptions based on the amount of space the business had upon departure from the incubator. It was assumed two employees per regular lab space or office and three employees per large lab space based on BCI averages.
- If the Consultant Team could not find another address in New Jersey after the graduation of a BCI resident but have evidence that they are still in business, it is assumed that the company has left New Jersey.
- If a resident company left the incubator due to loss of funding, the Consultant Team assumed they went out of business.

Employment data was only counted toward final calculations if the company was still present in New Jersey for a given employment year. When a company had offices in multiple locations, the Consultant Team reached out directly to the companies to determine how many jobs were in New Jersey.

A comprehensive inventory of all 114 BCI residents and graduates that includes information about company focus, years of tenancy, employment at incubator, capital raises, and current status is included as Appendix A.



## Economic Impacts Methodology

BJH calculated the economic impact of BCI in New Jersey using IMPLAN. IMPLAN is an economic impact modeling platform used by leading public and private sector organizations across the U.S. It is an “input-output” model that traces historic consumer and business-to-business interactions across 440 economic sectors to determine multiplier effects associated with economic activity for a given industry (or group of industries) and geography.

Economic impacts are described in terms of **direct**, **indirect**, and **induced** effects.

- **Direct effects** are derived from employment generated by BCI. In this model, direct effects are recorded in the State of New Jersey, where BCI and subsequent employment is located.
- **Indirect effects** are the business-to-business purchases in the supply chain taking place in the region that stem from employment generated by BCI. As relevant industries spend money in the region with suppliers, this spending is shown through the indirect effect.
- **Induced effects** are the additional value generated when direct and indirect employees spend their personal income on general goods, otherwise known as the “household spending effect.”

In this analysis, economic impacts (direct, indirect, and induced effects) are recorded in terms of **employment**, **labor income**, and **output**.

- **Employment** represents the number of full-time equivalent (FTE) employees generated by BCI.
- **Labor income** represents all salaries, wages, and benefits earned by employees. These values were projected through Bureau of Labor Statistics (BLS) Census of Employment and Wages (CEW).
- **Output** is the value of both final and intermediate goods and services and is composed of value added and intermediate inputs. Intermediate inputs represent the purchases of goods and services that are used to produce other goods and services rather than for final consumption. Thus, output is impacted by business model or supply chain decisions, while value added only reflects net new economic activity.

The report also examines capital raises by incubator residents and graduates between 2002 and 2023, both during and after their tenancy at BCI. However, these values are included more for points of information and are not part of the direct, indirect, or induced economic impacts.



*Front entrance of Incubator at North Brunswick*

## 4. Profile of BCI Resident Companies and Graduates

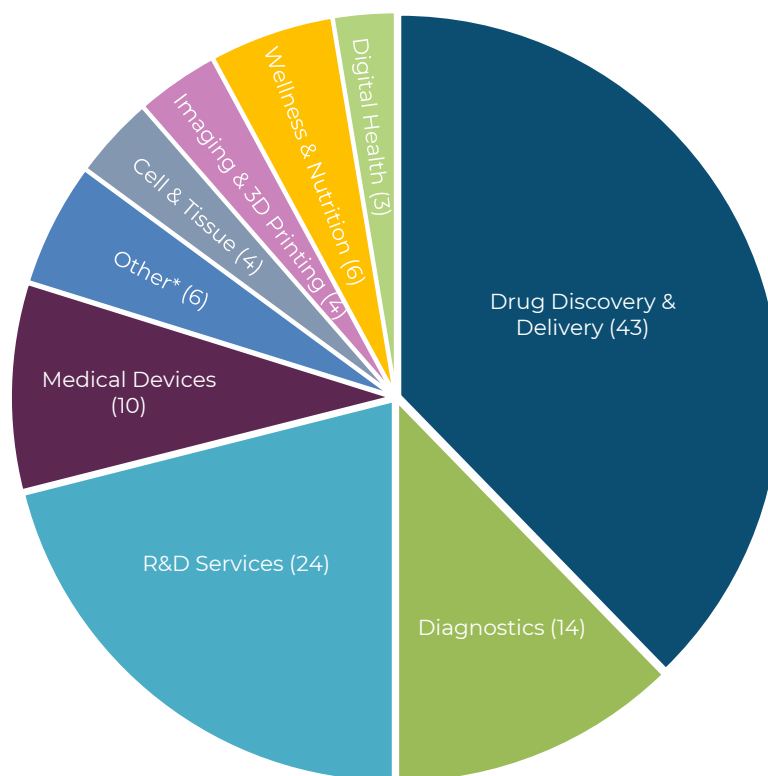
### Types of Companies and Tenure

Since its opening in 2002, 114 companies have occupied BCI, with 18 companies currently in the incubator and expected to graduate between 2024 and 2028. Of the 96 companies that have graduated from BCI, the average tenure at the incubator was 3.7 years. Eleven companies left the incubator after one year or less and at least one company left after less than a year but then returned for a multiple-year tenancy. Some founders have had multiple companies that have occupied space at BCI.

Of the 114 resident companies and graduates at BCI, 80 percent have been either drug discovery and delivery, diagnostics, R&D services, or medical device companies, with drug discovery and delivery companies alone

accounting for 38 percent of the total. Drug discovery companies have largely been focused on small molecule research though there have been companies focused on genomics, immunotherapy and other large molecule research. Thirteen resident companies at BCI have been contract research organizations (CROs) while another eight companies have offered R&D support with a wide range of focuses, from molecular biology, data management, mass spectroscopy, and material science and drug development. BCI residents have also included start-up companies focused on digital health, imaging, and wellness/nutrition. A breakdown of BCI graduates and resident companies by areas of focus is shown in Figure 2.

**Figure 2: BCI Occupants by Area of Focus**



Total occupants = 114

\*Other includes: Medical Chemistry, Natural Drug Components, Plasma Gas Technology

As noted, during the fall of 2023, the Consultant Team interviewed the leadership of 12 BCI graduates and six current BCI residents that had been identified as “success stories” by BCI’s current management. These companies’ success was due to their product approval, company growth, successful capital raises, advantageous acquisitions, and/or public offerings. Seven of these “success story” companies were drug discovery or drug development companies that rely on angel, VC, or other investor

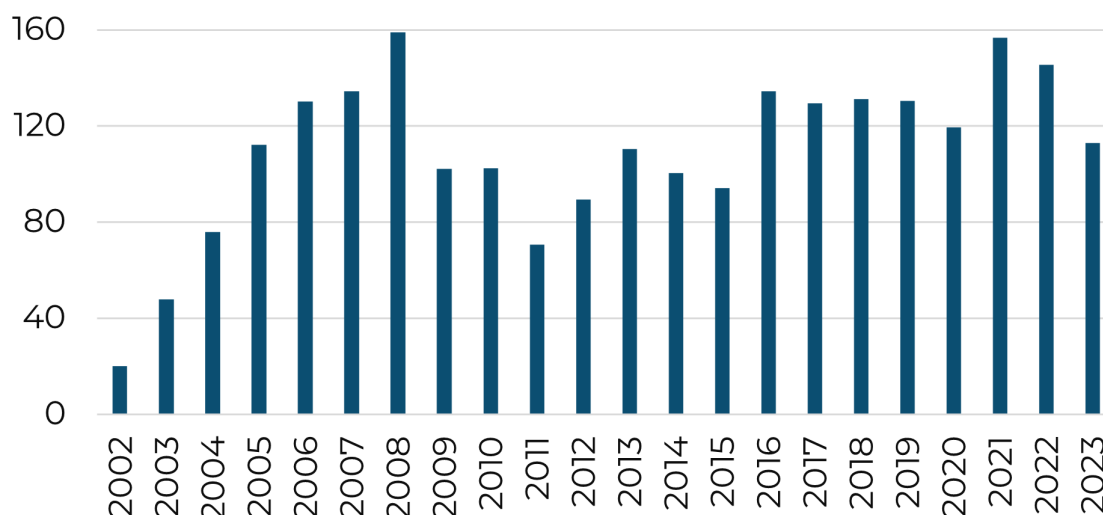
funds. Seven other companies were CROs that conduct drug discovery and development for pharmaceutical companies and generate their own revenue, thus not relying on VC or other investors for funding. Several CROs entered the incubator in the years before 2014 when access to venture funding by biotechnology startups was tighter due to the recession. Other “success story” interviewees were medical device, disease-screening companies, and imaging companies.

### Number of Employees at BCI by Year

In order to determine the total number of employees within the incubator on an annual basis, the Consultant Team sorted employment data to include only the jobs at a given company during the range of years they were within the incubator. An average of 110 people worked for resident companies in the incubator per year. Only 20 people worked out of the incubator in its first year, 2002, while

employment within the incubator peaked in 2008 with 159 employees working for active incubator resident companies. The most significant year-over-year decrease in jobs within the incubator occurred from 2008–2009 (-36%) following the recession in 2008. A breakdown of jobs occupying the incubator for each year of its operation is shown in Figure 3.

**Figure 3: Number of Jobs Occupying BCI by Year**

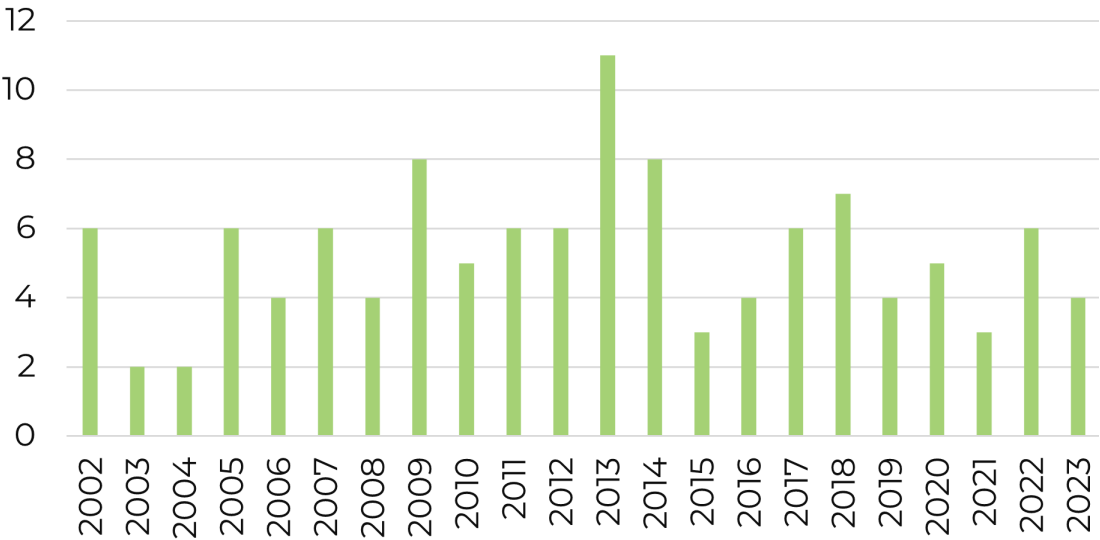




Number of Resident Companies Accepted and Entered by Year

Since its first year of operation in 2002, BCI has averaged 5.3 new resident companies per year for a total of 116 residents through 2023. Following the initial entry of six companies in 2002, the lowest number of incubator entries occurred in 2003 and 2004, with two new resident entries each year. The year 2013 brought the highest number of resident entries with 11 new companies. The number of company entries into the incubator for each year of its operation is shown in Figure 4.

Figure 4: Companies Accepted and Entered Incubator by Year



Exterior of Incubator at North Brunswick

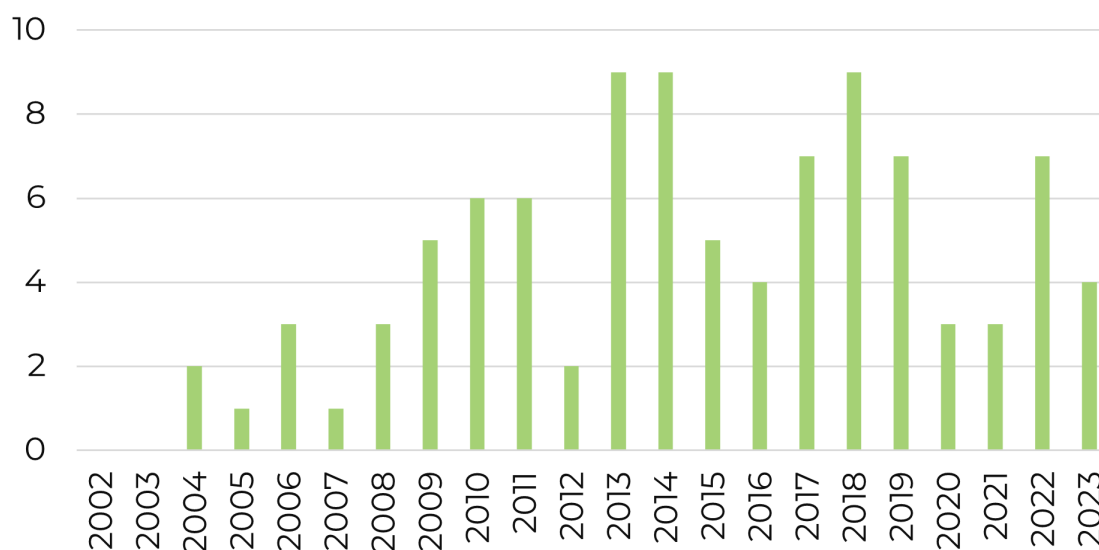


## Number of Resident Company Graduations by Year

Of the data the Consultant Team collected, the company exits were the most varied across the incubator's years of operation. Although the incubator averaged 4.4 exits per year, there were no resident exits in the first two years of operation, 2002 and 2003. In both 2005 and 2007, only one resident exited the

incubator. The years 2013, 2014, and 2018 each saw the highest number of exits, with nine companies leaving the incubator. The number of resident company exits from the incubator for each year of its operation is shown in Figure 5.

**Figure 5: Company Graduations from Incubator by Year**



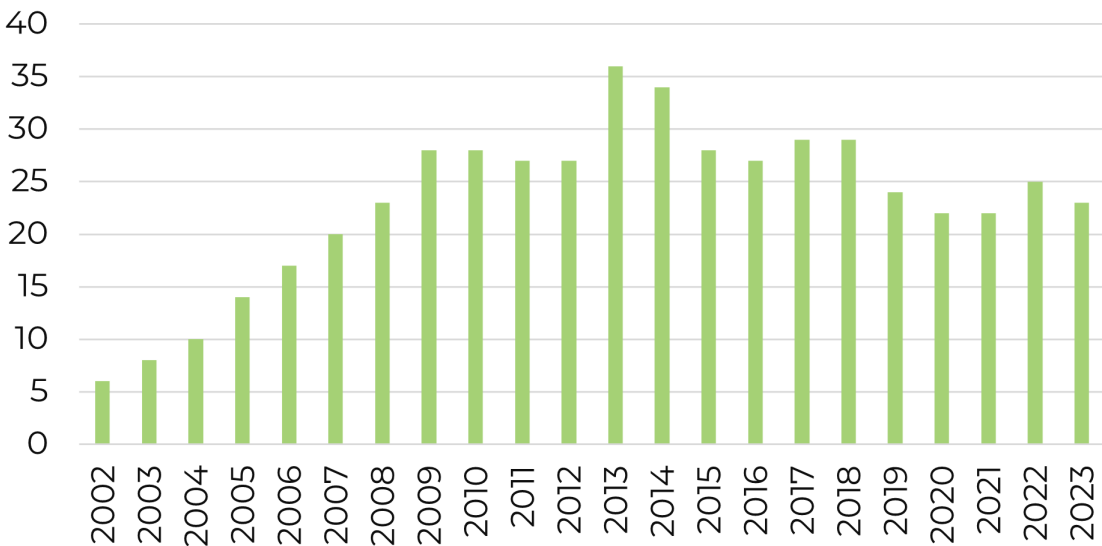
*Exterior of Step-Out Labs at North Brunswick*

### Number of Resident Companies Occupying BCI by Year

In its first year of operation (2002), BCI had six resident companies occupying the incubator. This number steadily increased until leveling out at 27-28 resident companies in a given year between 2009 and 2012. The number of company occupants peaked in 2013 at 36. Although 2020 and 2021 saw a slightly decreased number of BCI residents (22), it began increasing again in 2022, with 25 resident companies occupying BCI in 2022 and 23 in 2023. The number of companies

occupying the incubator for each year of its operation is shown in Figure 6. It should be noted, however, that the quantity of companies in the incubator is not a complete indicator of the level of activity as a smaller resident roster can indicate that companies are occupying multiple labs. For example, as of 2023, Sonder Research occupies four labs, JMS Pharma and Linus Biotechnology each occupy three labs, and at least three other companies occupy, at least, two labs each.

**Figure 6: Number of Companies Occupying Incubator by Year**



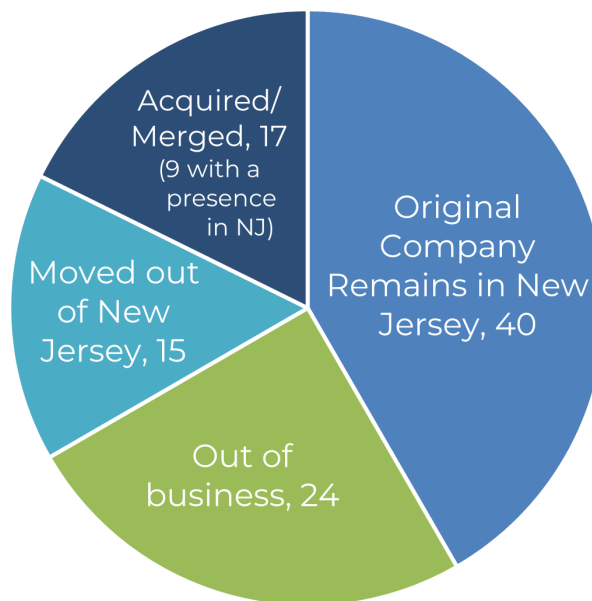
*Scientist working in BCI lab*

## Status of BCI Graduates

To assess the current status of BCI graduates, the Consultant Team organized them into four categories: remains in New Jersey as the original company (40), acquired/merged (17 total), moved out of New Jersey (15), and out of business (24). Of the companies that were acquired or merged, nine of them maintain a presence in New Jersey. The current status of graduate companies from the incubator is shown in Figure 7. Of the 15 companies that left New Jersey, there were a variety of factors that

led them to move out-of-state. Founders chose to move their companies closer to their academic institution or to their home country. Others moved to be closer to their customers or partner firms. Out-of-state locations where BCI graduates have located include Pennsylvania, New York, California, the District of Columbia, Massachusetts, Ohio, North Carolina, Belgium, and Israel. A detailed index of the current status of all incubator graduates and current residents can be found in Appendix A.

**Figure 7: Current Status of Graduated Companies through 2023**



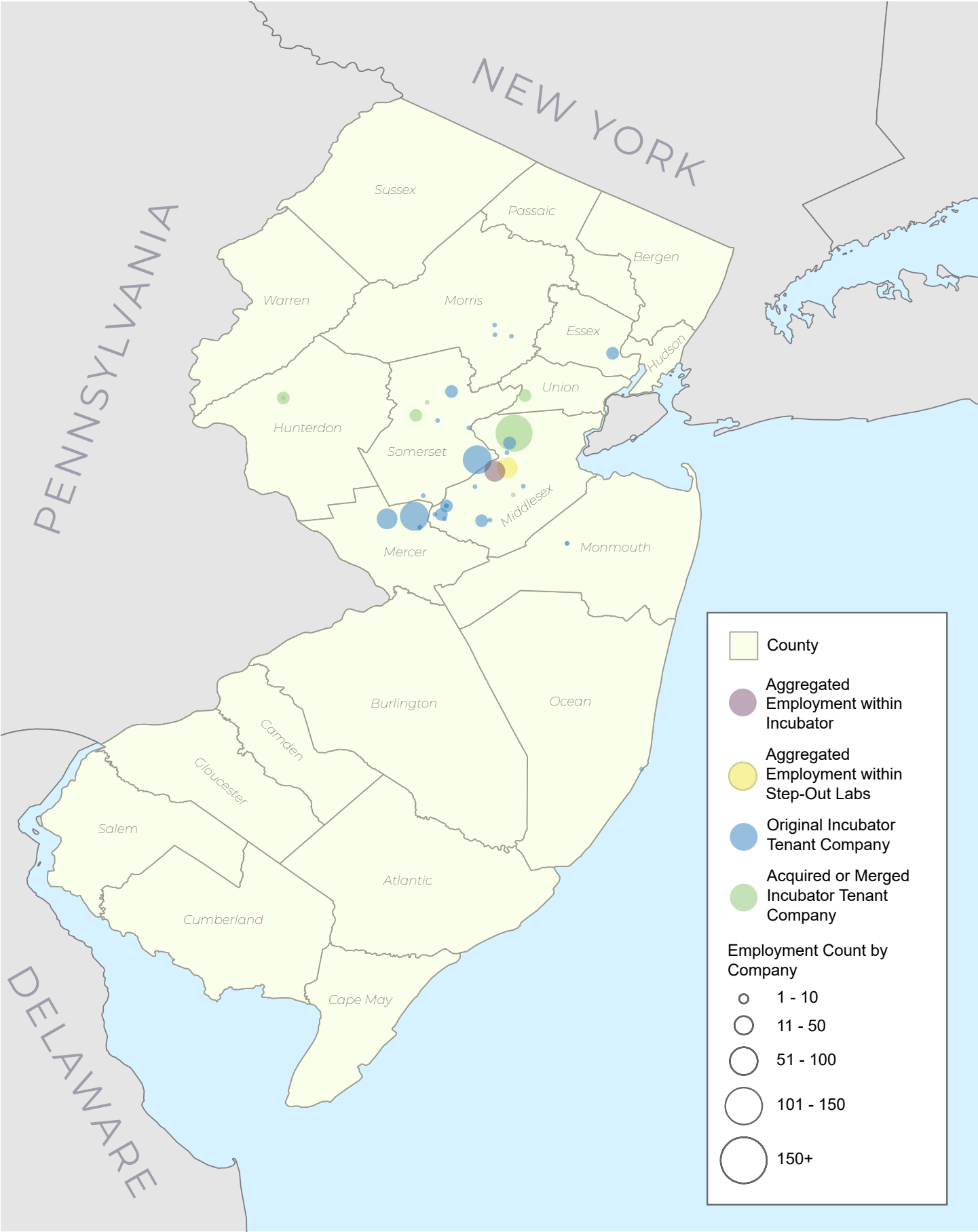
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## New Jersey Jobs Directly Attributable to BCI, 2023

Figure 8 on the following page provides a map of New Jersey showing the location of all current jobs directly attributable to BCI. This includes current jobs in New Jersey at companies that were themselves residents at BCI and current jobs in the state at companies that resulted from acquisition or

mergers of original BCI resident companies. The largest concentration of incubator-related employment continue to be along the Route 1 corridor in Middlesex and Mercer Counties with a smaller yet substantial employment cluster in Somerset County as well.

Figure 8: New Jersey Jobs Directly Attributable to BCI, 2023

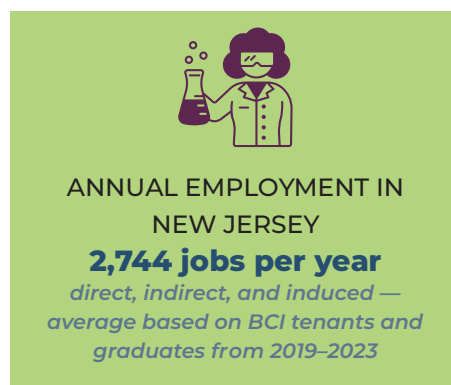




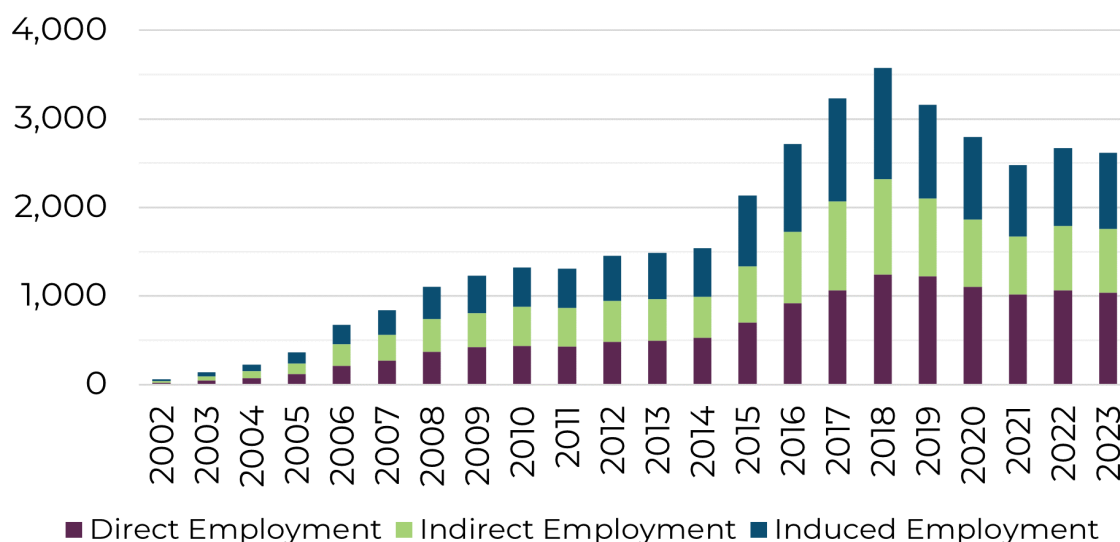
## 5. Economic Impacts

### Jobs

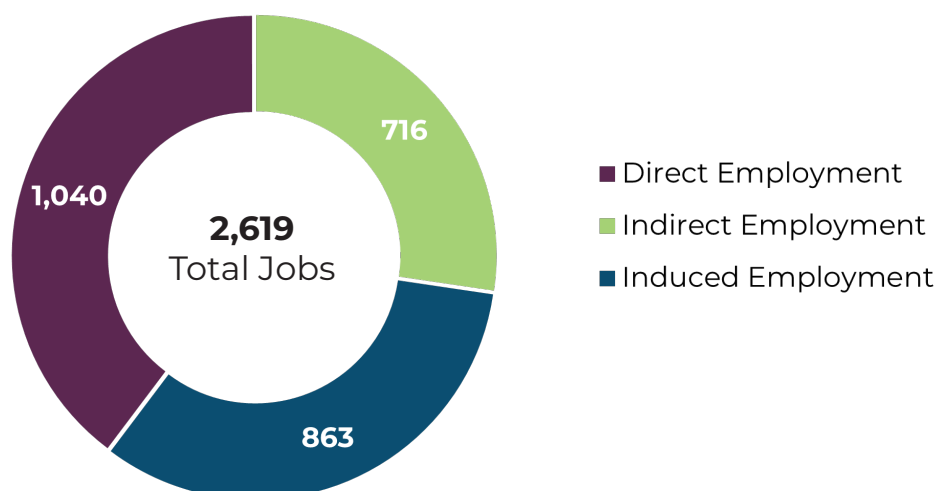
Total employment (direct, indirect, and induced) associated with BCI residents and graduates varied over time from 200 in 2002 to over 2,600 in 2023. Maximum BCI-attributable employment occurred in 2018 with over 3,500 jobs. In the last five years (2019–2023), there have been an average of 2,744 direct, indirect, and induced jobs produced each year. Figure 9 below demonstrates the direct, indirect, and induced employment between 2002 and 2023. Figure 10 presents the breakdown of employment in 2023.



**Figure 9: Jobs Attributable to Incubator Resident Companies and Graduates in New Jersey**



**Figure 10: 2023 Employment attributable to BCI**



Labor Income

Over these 20 years, a total of nearly \$4 billion in labor income was generated by the jobs attributed to the incubator (approximately \$2.1 billion direct, \$1 billion indirect, and \$800 million induced). Figure 11 below demonstrates the direct, indirect, and induced labor income between 2002 and 2023. Figure 12 presents the breakdown of labor income in 2023. (Values are in inflation-adjusted 2023 dollars.)



Figure 11: Labor Income Attributable to Incubator Resident Companies and Graduates in New Jersey

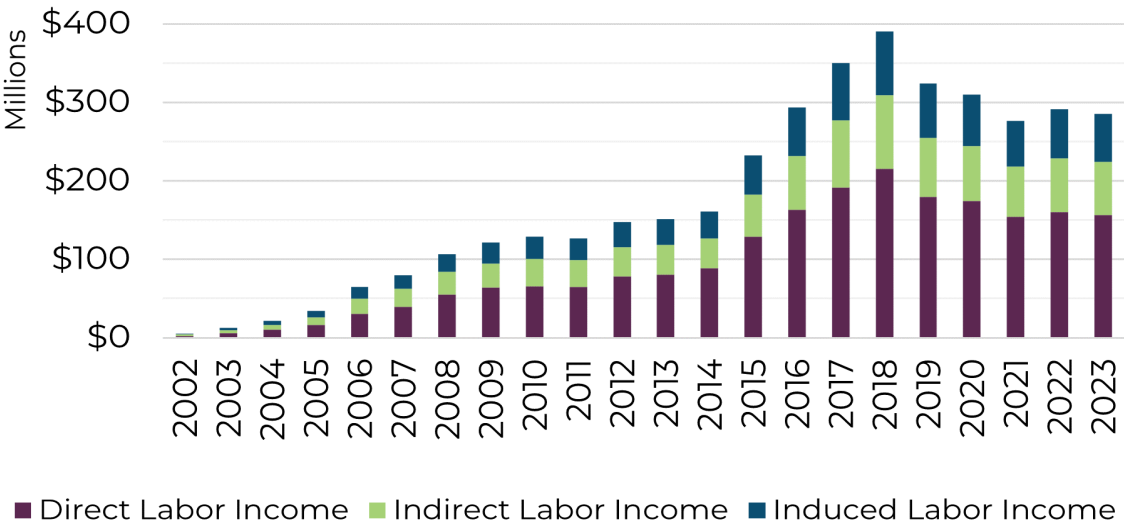
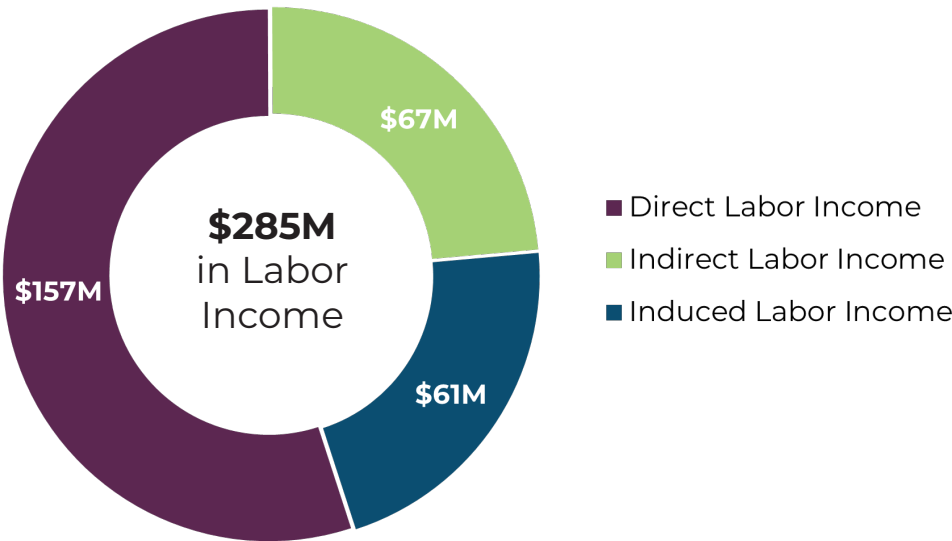


Figure 12: 2023 Labor Income attributable to BCI



Output

This labor income produced a total output over the 20-year period from BCI for the State of New Jersey valued at \$9.1 billion (approximately \$4.5 billion direct, \$2.3 billion indirect, and \$2.3 billion induced). Figure 13 below demonstrates the direct, indirect, and induced output between 2002 and 2023. Figure 14 presents the breakdown of output in 2023. (Values are in inflation-adjusted 2023 dollars.)

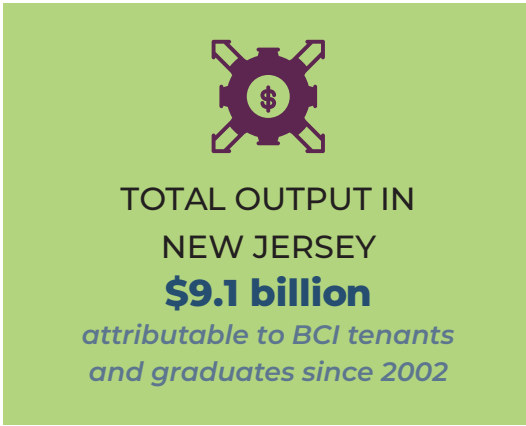


Figure 13: Output Attributable to Incubator Resident Companies and Graduates in New Jersey

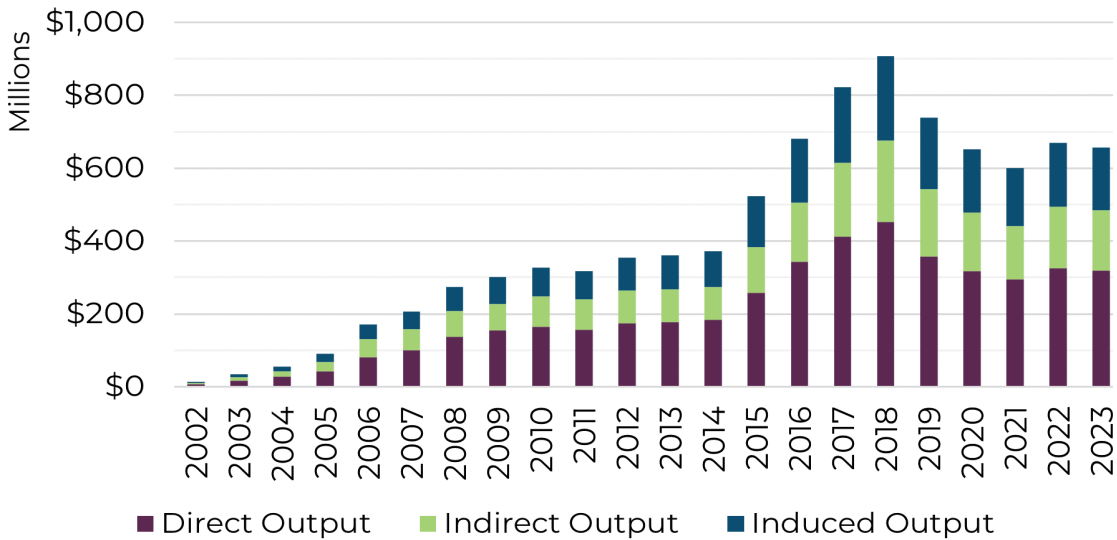
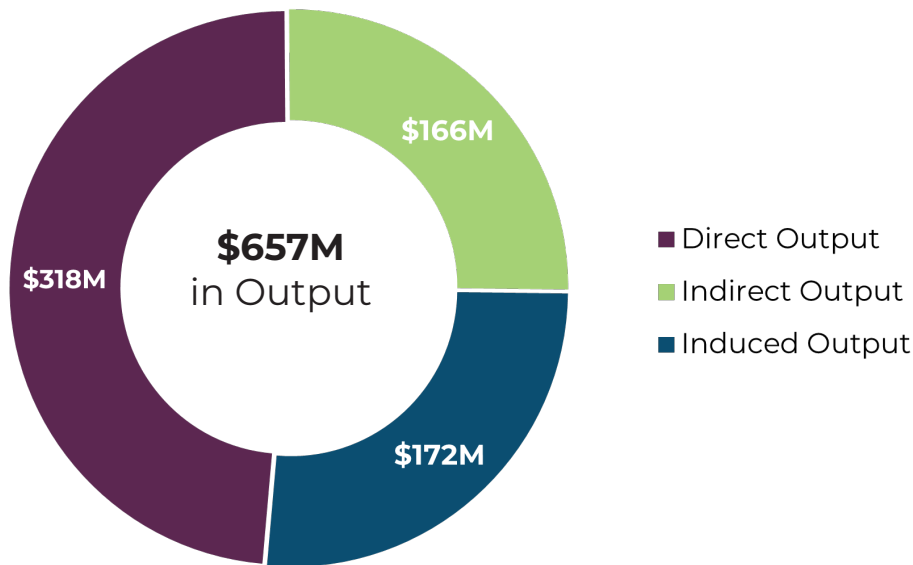


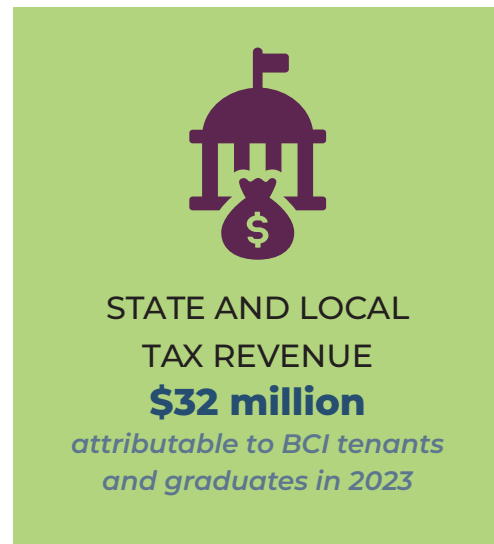
Figure 14: 2023 Output attributable to BCI



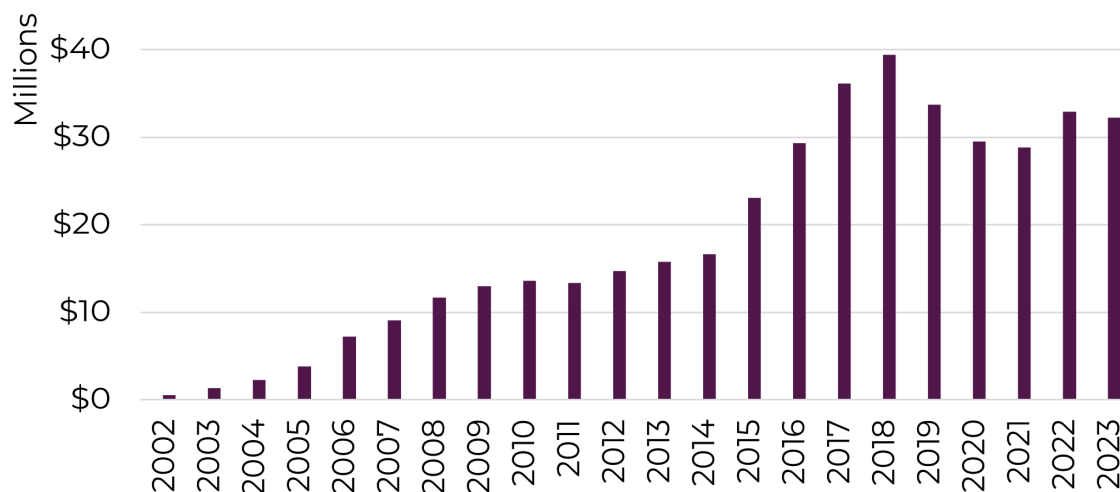
## Fiscal impacts (Tax Revenue)

Between 2002 and 2023, BCI residents and graduates paid over \$400 million in state and local taxes as estimated by IMPLAN (2023 dollars). This estimate includes direct, indirect, and induced impacts across sales, property, income, and other tax categories.

In 2023, over \$32 million was estimated to be paid as state and local taxes attributable to BCI companies and \$31 million on average each year over the past five years. A year-by-year breakdown of state and local taxes paid by BCI companies in New Jersey is shown in Figure 15.



**Figure 15: State and Local Tax Revenue from BCI Resident Companies and Graduates in New Jersey**



## Impacts on Other Industries

BCI's \$9.1 billion total output has impacts on multiple specific industry sectors in New Jersey, with BCI graduate companies primarily generating direct jobs and economic output in the scientific research and development services industry. BCI's output has indirect impacts on several non-scientific research related industries, including real estate,

employment services, management consulting services, legal services, and architectural and engineering services.

Tables detailing the top ten industries in 2023 impacted by scientific research and development services attributed to BCI graduates and resident companies, in terms of indirect and induced employment and output, are included in Appendix B.



## 6. Additional Graduate and Resident Company Impacts: Notable Capital Raises, Patents and Institutional Connections

In addition to the direct, indirect, and induced economic impacts associated with employment, BCI graduates and residents have made a significant impact on New Jersey's life sciences economy and ecosystem through outside investment, measured by capital raises, and innovation, measured through number of patents issued.

### Capital Raises

In the 22 years that BCI has operated, many of its graduates have raised considerable capital through VC investors, private equity investments, and other investor funding sources, many while they were still residents of the incubator. A handful of BCI graduates have had successful initial or subsequent public offerings while there have also been some significant acquisitions of other BCI residents or their parent companies. A full roster of capital raises based on available public and proprietary data sources is available in Appendix A.

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**BioAegis Therapeutics recently received a \$20M contract with BARDA to address acute respiratory diseases.**

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Since 2022, BCI resident companies and graduates have raised over **\$603 million in investor funding**. Over 40 percent of that amount, or \$252 million, was raised by companies while they were residents of the incubator. Capital raised by early-stage life sciences companies generally gets invested into new investigators and additional research and development. Equipment and supplies are also significant cost sources for growing life sciences companies, though the shared equipment at BCI helps lower this expense item for its residents.



### PUBLIC OFFERINGS

**\$743 million**

*raised by BCI graduates  
since 2002*

At least six BCI graduates have had successful public offerings over the past two decades, raising over \$742 million. Notable among these is Advaxis, who occupied BCI between 2005 and 2011 and raised over \$210 million in two public offerings in 2005 and 2019 before merging with Ayala Pharmaceuticals in 2022. The merged company continues to maintain a presence in New Jersey.

Notable acquisitions of BCI graduates include GENEWIZ, one of BCI's earliest residents, which was acquired by Brooks Automation for \$442.7 million in 2018 and rebranded as Azenta Life Sciences. Azenta still maintains facilities in South Plainfield, New Jersey.

Table 1 on the page 21 highlights 20 examples of BCI's resident company successes and their recent capital raises. Values are not adjusted for inflation.

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**Lactiga Therapeutics's \$1.6M in pre-seed funding was bolstered by \$350K of support from NJCSIT.**

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## Patents

Since the incubator's opening, forty of its graduates have been granted almost 350 patents. Additionally, former resident Crystal Pharmatech, a Chinese company with a growing facility in Cranbury, has been issued 58 patents while former resident Biotecnol, a Portuguese company, has been issued nine patents.

Excluding Crystal Pharmatech, 180 patents have been granted to BCI graduates that are still located in New Jersey. The large majority of these patents are related to drug discovery and include patents for therapeutic compounds, antibacterial agents, synthetic processes, treatments, and drug delivery systems. Other categories of patents granted to BCI graduates include medical devices, imaging, and articles of manufacture.

Appendix A includes the confirmed number of patents issued for each graduate and resident company.

## Institutional Connections

Located in Middlesex County and adjacent to the New Brunswick campuses of both Rutgers University and the University of Medicine and Dentistry of New Jersey (UMDNJ), BCI residents have close connections with New Jersey's preeminent public research institutions. At least 15 BCI graduate companies are spin-outs from Rutgers while five are spin-outs from UMDNJ. Other graduate companies signed

agreements with Rutgers University for sponsored research while the incubator's proximity to Rutgers University and opportunities for industry-institutional collaboration were a significant draw. Many residents of the incubator also employ Rutgers students and post-graduates.

Perhaps the most notable Rutgers-related BCI resident success story is Visikol, a start-up that developed a technology that allows drug developers and pathologists to capture high-resolution 3-D images of human organs and tissue. The company's co-founder, Michael Johnson, originally developed the Visikol HISTO technology while a doctoral student at Rutgers. Dr. Johnson teamed up with a fellow Rutgers doctoral student, Tom Villani and, consulting with Jim Simon, a professor of plant biology at the Rutgers School of Environmental and Biological Sciences, advanced the technology and secured funding for the formation of Visikol. Visikol occupied space at BCI for two years between 2016 and 2018 and was acquired by Cellink in 2021. While Visikol was a resident at the incubator, over 160 American and European researchers were using its imaging technology.

In 2023, Dr. Johnson was appointed president of the New Jersey Innovation Institute, a corporation of the New Jersey Institute of Technology.

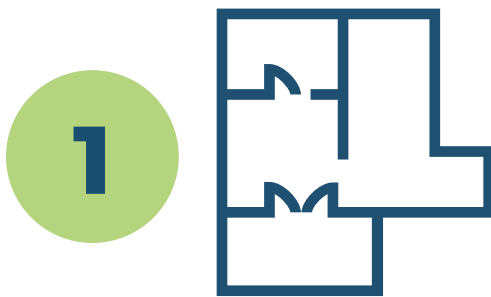
**Table 1: Examples of Successful BCI Resident Companies and Graduates and Capital Raises**

Company	Most Recent Capital Raise/IPO	Total Value Raised	Estimated Post-Deal Value*	Acquisition Value
Amicus	\$175 million (secondary public offering, May 2019)			
Ascendia	\$10 million (investor raise, Jul. 2022)			
Aucta Pharma	\$100 million in Chinese Yuan (approximately \$14.1 million USD; from Chinese VC investor, Oct. 2021)			
BioAegis	\$22 million (VC funding, Mar. 2022)		\$64.1 million	
Couragene	\$2.6 million (seed funding, Sep. 2022) \$40 million (NIH grant, Oct. 2023)		\$8.6 million	
EUProtein				Acquired by Meridian Life Sciences for undisclosed amount (Apr. 2022)
Fidelis Animal Health	\$5.13 million (VC funding, Jul. 2021)			
GENEWIZ				Acquired by Brooks Automation for \$442.7 million (Sep. 2018)
Genomic Predictions / Lifeview Laboratory Services	\$12 million (Series A1, Dec. 2021)		\$76 million	
Grace Therapeutics				Acquired by Acasti Pharma for \$60.82 million (Aug. 2021)
Izun	\$1.12 million (investor raise, Nov. 2014)			
Lactiga	\$1.6 million (investor raise, Sep. 2021)			
Linus Biotechnology	\$8 million (Series A and A2, May 2023)	\$25.8 million	\$128 million	
NJ BioPharma	\$5.62 million (seed funding, Mar. 2023)			
Orthobond	\$5.1 million (\$5.1 million (VC funding, Aug. 2022)		\$47.29 million	
Osseoprint 3D	\$15,000 (grant, 2019)		\$6 million	
PDS Biotech	\$51.75 million (second public offering, Jun. 2021)			
TAXIS Pharmaceuticals	\$3.2 million (prize money from CARB-X, Jan. 2020)			
Urogen	\$3.02 million (investor raise, Oct. 2020)	\$5.38 million		
Visikol / Phytosys				Acquired by Cellink for \$7.5 million (May 2021)

\*as cited by Pitchbook

## 7. Key Factors that Drive Companies to Choose BCI

Graduates and resident companies of BCI interviewed by the Consultant Team between September and November 2023 identified a broad range of reasons that shaped founders' decision-making regarding locating their companies at the incubator. These included the high quality of the facilities and the professionalism of the BCI staff, BCI's location in the heart of the Route 1 Pharma Corridor, the incubator's general reputation, and repeat residents who had leased space at the incubator before.



### Space and Staff

**Frank Bedu-Addo**, president and CEO of **PDS Biotechnology**, wanted to relocate his young company, and had looked at Philadelphia, elsewhere in New Jersey, and NY when he came across CCIT. He found the space attractive, and Dr. Bedu-Addo felt its central location and professional appearance were good for making an impression on potential investors. The facility had conference rooms and a good layout, with rents that were quite reasonable. Dr. Bedu-Addo notes that labs don't come with equipment but they offered appropriate space and infrastructure for the equipment that his company brought in.

**Michael Johnson**, president of the New Jersey Institute for Innovation, founded his company **Visikol** based on discoveries made at Rutgers. He wanted to get off campus so that any future IP would not belong to RU, so he moved to CCIT in 2016. "I needed high-quality, professional lab space and equipment,

plus a networking community - CCIT was great for that."

Across all stakeholder interviews, the Consultant Team heard nothing but positive reviews about BCI. With its "great staff," "convenient location," and "excellent facility and equipment," the incubator runs useful programs around funding, pitches, and lunch + learns in a friendly atmosphere, "not a cutthroat" one. **Founding BCI director Stash Lisowski** was pleased to see the continued success of the facility; he said it seems to be a "great breeding ground" for biotech companies, a vital asset "that has kept life sciences in New Jersey."

**Sonder Research X** founder **John Pena** appreciated that "BCI gives you class A lab space – maybe not as fancy as some other locations but really very good for the price." **Hock Tan of Bionex** agreed: "it's a five-star science hotel," he said, "and it fits our image as a potential success story."

**Robert Wenslow**, co-founder of China-based **Crystal Pharma**, sought to establish a US presence in 2014. He looked at the lab space at Princeton Corporate Plaza in Monmouth Junction and other facilities but those were too large for the small US team (Dr. Wenslow and two scientists), so an incubator seemed to be the right solution – "it was an incredible turnkey facility," he said, and the location was great for hiring. "The conference facilities are really nice, very useful, and they made us look good [to investors and other visitors] – such a friendly, responsive reception team."

**Rikin Mehta**, co-founder of **Lactiga**, said that having the State economic development team present is also key, as it increases company visibility and provides easy access to information regarding State incentive programs and funding. The staff is always very accessible and responsive, he said, and "they make a lot of the administrative minutiae easy."



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**Linus Bio has raised \$24M to date and was recently dubbed a *Top Company to Watch in 2024* by Biospace.**

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**John Pennett**, a partner at a life sciences group and board member whose client base is well-represented by BCI companies, noted that the founders he works with appreciate the collegial environment, a close and low-key community that was especially welcoming to non-native English speakers.

**Roelof Rongen**, the founder of current resident **Innovative Molecules**, noted that the three principal values of BCI are professionalism, networking opportunities, and opportunities to identify young talent, particularly from New Jersey schools such as Rutgers and the Stevens Institute. He added that most of the talent he has hired or met is from New Jersey as he has found that “New York City-based talent generally doesn’t want to leave New York City.”

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**“The pairing of BCI + Step-Out Labs in the same business park is compelling and unique — there’s nowhere else in New Jersey where you can graduate [out of an incubator] and move just 100 yards away”**

**- Frank Bedu-Addo, PDS Biotechnology**

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## Location

**Peter Butch**, partner at Fox Rothschild and BCI board member, touted the incubator’s proximity to Rutgers and Princeton University, so that young companies might access university resources and, at the same time, the universities can place their spinout companies at BCI.

**Zena Therapeutics**, which just raised \$1M, is a new resident at BCI. This proximity has also been attractive to companies from NYC: powerhouses like Amicus and Linus wanted outposts with easy access to both universities and the Pharma corridor; the low cost for the space compared to New York was a strong draw as well.

**Ronak Kadakia**, CEO of **LinusBio**, had her company at the JLab incubator in Manhattan, where she admits she would have loved to stay since most of her science team lived in the city and her CEO was in Westchester. Two things made her expand the site search: first, the company couldn’t scale at a reasonable cost in NYC (due to significant cooling, CFM, and lab gas needs and complex NYC fire safety and building codes), and second, Linus wanted more proximity to pharma and commercial testing partners in New Jersey.

Dr. Mehta loves being in New Jersey, along the pharma corridor, close to Rutgers. He touted the area’s quality of life and cost of doing business, as well as BCI’s geographically central and convenient location being good for hiring talent. BCI brings a lot of startups together as a community on one campus; he likes being able to meet with other people easily, other scientists.

**Joachim Kohn**, Chief Science Advisor to **Osseoprint 3D**, stated that the location of the incubator is perfect. “It is perfectly located on Route 1 in addition to being clean and well-managed while providing professional space for start-ups, all at an affordable price.”



## Repeat Customers

“When it came time to find lab space for **Genesis Imaging**, I knew right away that CCIT offered the amenities we needed,” founder **Mathieu Petitjean** said in a 2019 article about his returning to the incubator with his second company. “We couldn’t be happier with the personalized attention, affordable lab space, and access to business-development resources. Locating in central New Jersey also positions us well to form partnerships with the many large pharmaceutical companies based in the Garden State.”<sup>1</sup>

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**GENEWIZ, one of the incubator’s earliest residents, now has labs across the U.S. and in Asia and Europe. They just announced a new genomics center opening in Oxford, England in 2024.**

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**Amy Liao** is another two-time BCI founder, first with **GENEWIZ** and now with **Couragene**. When she and partner **Steve Sun**, who lived in New Jersey, started GENEWIZ in 1999, CCIT had not opened yet. They “searched high and low for a space in New Jersey but couldn’t find anything” that supported their needs. They ended up at the Audubon Business and

Technology Center in upper Manhattan. When CCIT opened in 2002, then-director Michelle Brunton reached out to recruit GENEWIZ to come to the new incubator facility. It was “a no-brainer” to reduce their commute, but “only upon occupancy did we learn all of the support and great resources that were available.”

The resources included turnkey labs, all the shared services like dishwashing, autoclaves, and the building’s infrastructure to support their equipment. She also said that the staff listens, she says, and is constantly looking for ways to support and help the incubator’s resident companies. Over its four years at CCIT, GENEWIZ grew from five employees to more than 20. Today the company not only houses 200 employees in South Plainfield, but they also have labs in La Jolla, North Carolina, Maryland, Beijing, Germany, the UK,<sup>2</sup> and Tokyo, with a total employment of more than 1,500.

When Dr. Liao founded her second company, Couragene, in 2022, BCI was first on her list when she needed to open a lab space – another “no-brainer.”

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<sup>1</sup> NJEDA, 2009: *Entrepreneur Returns to NJEDA’s Life Sciences Incubator to Launch Genesis Imaging Services*

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<sup>2</sup> News Medical Life Sciences, 2023: *New state-of-the-art genomic services facility opening in the UK*



## Reputation

The incubator's reputation as a supportive environment was widespread. "I discovered CCIT based on recommendations from several former colleagues and found the staff to be very welcoming and the facilities well-suited to our needs," **Sunnylife** co-founder and CEO **Xibin Liao** said in a 2018 article for ROI-NJ.<sup>3</sup> "Furthermore, we find many advantages in CCIT's location near major cities, universities, and pharmaceutical companies."

**Guangli Wang**, founder and CEO of **EUProtein**, is impressed that Lenzie and his team, and New Jersey government in general, provides so many accommodations for growing companies – he feels lucky to have gotten space in "the best incubator, the best environment." **GENEWIZ** founder Amy Liao recommended BCI to him, and he knew of the facility through its reputation – "an address there gives a company good 'cred' not only in the science community but also with customers." Dr. Wang was able to grow his company – BCI offered great access to talent that is local, with most of his employees living 20-30 minutes from the lab. He has since sold EUProtein (now Meridian), but "if I had another startup," he said, "BCI would be my first choice."

**Marc Burel**, former president and CEO of **Orthobond**, would highly recommend the incubator to anyone looking to locate in New Jersey. "You get a great sense that you're a part of something," he said, with very professional surroundings "even if you're not the most professional company." The space belies the financial capabilities of the companies, he said, with great equipment and open access to so many resources like nearby Rutgers. The "bang for your buck is second to none at CCIT!"

Dr. Kohn, the Chief Science Advisor to current BCI resident Osseoprint 3D, noted that the "incubator is a real asset; it is an excellent example for best practice in State-support for start-up companies and commercialization." He added, "The entire concept is phenomenal... and we have been able to make contact with other companies and founders in a very collaborative and friendly environment." Dr. Kohn added that he brings this perspective as a serial entrepreneur who has worked with multiple life sciences companies.

**Debbie Hart**, president and CEO of **BioNJ**, the State's industry organization, confirmed that the incubator has a great reputation – "it's really the cream of the crop among incubator facilities in New Jersey, they've got so many companies with success stories." Their programs are highly successful, Ms. Hart said, and "BCI has fulfilled its original mission."

<sup>3</sup> ROI-NJ, 2018: *Sunnylife Pharma is newest tenant at NJEDA's CCIT*

## 8. How BCI Contributes to the Success of its Residents

Resident company interviewees were of one voice in saying that BCI contributed to the success and growth of their companies. The most common factors cited were the BCI staff, resources, programming, and the facility's space and equipment.

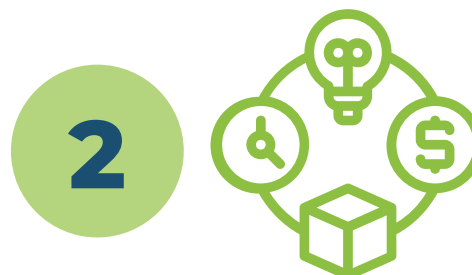


### Staff

Amy Liao of GENEWIZ and Couragene said that the incubator was “instrumental” and “critical” to GENEWIZ’s growth; former incubator director **Don Shatinsky** provided customer-service training to the GENEWIZ staff, which enabled them to implement superior customer service which distinguished the company in the marketplace. Currently with her new company Couragene, Dr. Liao appreciated how responsive current director **Lenzie Harcum** was during the Covid pandemic, converting so many events and activities to online activities to keep the community vibrant and connected.

Marc Burel of Orthobond was and continues to be a big fan of the staff at BCI – “they’re the best ever,” he said. “Rosa is such a pleasant person to work with, she helped us out so many times – they offer truly tremendous support.”

Dr. Liao also cited the staff’s support for her company’s commercialization efforts, operations, legal and other professional-services needs, even marketing. The incubator has relationships with suppliers and consultants who come to companies at CCIT, which is very helpful for both convenience and reliability. “We met a lot of service providers whom we’ve now worked with for over a decade.”



### Resources

**Mike Wiley**, Vice President of Foundation Venture Capital Group and affiliate of the New Jersey Health Foundation, would like to commend the State of New Jersey for having created a space that “strikes a great balance with affordability and capability.” The incubator is a strong indication to founders that the State supports companies – one founder compared it to Boston, “where the support comes from the universities.” BCI, he said, offers “guard rails, shared services, and a professional atmosphere to allow the founders to build companies while advancing their science.” The comfortable atmosphere also encourages cross-collaboration, which is also good for growth. GENEWIZ co-founder Steve Sun agreed, saying BCI’s “existence creates opportunities; we appreciate the private-public partnership that fosters the ecosystem for life sciences companies, and lowers barriers for company launches.”

**Vince Smeraglia**, Executive Director for New Ventures at Rutgers University said that BCI, under Lenzie’s direction, has become more opportunistic with regard to the types of companies being accepted into the incubator, broadening to include 505(b) (2)-type companies, for example, and groups repurposing orphan drugs, not just straight drug development. This diversification is good for the center’s fiscal health, and it also serves the resident companies well by having a variety of neighbors.

Dr. Sun added that “CCIT works hard to offer structure for the companies, helps founders to be more disciplined.”



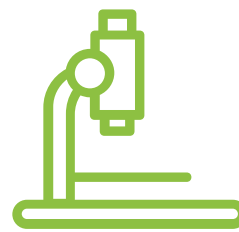
It facilitates relationships with Rutgers and their resources – specializes equipment and online journals both of which are very expensive for a small startup to buy/access on its own.

Robert Wenslow of Crystal Pharma cited the relationships with clients and companies as the most important success factor for his startup. BCI leverages its board well, he says, and NJEDA's support is also key.

One of Ronak Kadakia's primary concerns was how to get LinusBio's tech to market fastest and easiest – and she was able to do it at BCI within two months of signing her lease. "We first visited Lenzie in December of 2022, [the board] made its decision to approve us, the labs opened March 1, and we started work mid-May. We're hoping to have full CLIA certification by the end of this year." LinusBio also received an incentive award through NJEDA's Ignite program, which paid for six months of free rent at BCI; she is "looking forward to taking advantage of the NOL program" and is working with NJEDA's Kara Moore on the Angel Matching Program, as LinusBio is currently working on a raise.

**Michael Johnson**, now president of the New Jersey Institute for Innovation and founder of former BCI resident, **Visikol**, thought that BCI's programming, like the Founders + Funders days and when CEO alumni were invited to speak to the startups, was "fantastic!" **Guangli Wang** seconded "all the good programming," e.g., learning about grants, investing, advances in technologies, accounting, and IND credits.

There was credibility, an implicit value in being at the incubator – Dr. Johnson had a chance to speak in front of the governor, he told the Consultant Team, and BCI's staff helped his company look professional in front of funders. Frank Bedu-Addo of PDS Biotech said the space at CCIT being attractive and presenting well – that was very helpful. Dr. Bedu-Addo, Marc Burel, and Ascendia's **Jim Huang** all credited the incubator with key connections and introductions that helped their companies grow.



## Space, Equipment

Dr. Wenslow added that the pairing of BCI + the Step-Out Labs space in the same business park is compelling and unique – "I don't know anywhere else in New Jersey where you can graduate and just move 100 yards away – this is the best advancement in the last 10 years."

BCI provides enough basic shared equipment so that the startups don't have to purchase everything; they can use what they need on a pay-per-use basis. Dr. Wenslow's lab was ready to go when he was ready to move in – he couldn't "think of anything that could have been done better!" Mr. Burel knew he needed specific types of space and equipment that other facilities around New Jersey couldn't supply; BCI staff also was also essential, he said, in setting Orthobond up for success.

**Susan Levinson**, CEO of **BioAegis Therapeutics**, appreciated the shared resources and the facility's encouragement of community and social interaction with other companies there. She feels the same about the Step-Out Lab, where her company is now located; "we've done some great collaborations with the neighboring companies."

**Shoufeng Li**, CEO of **Aucta Pharma**, said he took advantage of everything BCI/CCIT had to offer – listing the conference rooms, the activities and events, the amenities, the investor days – "all of the above were useful," he said.

Roelof Rongen stated that the value of the NMR and autoclave at BCI are "fundamental" to start-up residents and are not available at nearby facilities such as Deer Park. It should be noted that the Consultant Team has been informed that the NMR is being discontinued as it has not been used in three years.

## 9. Factors Guiding Residents' Post-BCI Location Decisions

BCI graduates interviewed by the Consultant Team cited three principal factors that drive their location decisions upon graduation from the incubator: access to (1) talent, (2) appropriate and affordable real estate, and (3) customers. Although some interviewees told the Consultant Team that they had considered space in Pennsylvania or New York, these three factors and the corresponding assets of Central New Jersey led all 12 graduates to decide to remain in the region.

It should be noted that four of the graduates interviewed by the Consultant Team are currently located at the Step-Out Labs or larger space at the New Jersey Bioscience Center and several others noted that this facility would have been their first preference if space were available.



### Access to Talent

Multiple interviewees stated that a location along the Route 1 pharma corridor creates strong opportunities for recruiting talent. Fifteen of the 18 interviewees were based in New Jersey before founding their startups and entering the incubator and either had worked in the pharma industry or had strong connections to the sector.

Even companies with strong overseas components, such as Crystal, **Aucta**, and **NJ Bio**, cited the need to maintain a strong presence in New Jersey. While locations abroad may provide reduced operating costs and lower cost talent, founders did not see these as full substitutes for the opportunities presented in New Jersey.

Founders also cited the adjacency of Rutgers University and Princeton University and the full ecosystem of a pharma and growing biotech hub that make a Central New Jersey location ideal.

John Pena of Sonder Research X noted that while he lives in Manhattan and is on faculty at Weill Cornell, it is easier to hire established scientists in Central New Jersey than in New York City. While younger talent might prefer to live in New York City or Philadelphia, more established talent prefer the option to buy a house and send their children to public schools and Central New Jersey offers a better quality of life. While Sonder is still located in BCI, he views Central New Jersey as a preferred location when Sonder graduates.

Nevertheless, some interviewees did note that a car-centric suburban location may hinder the ability to recruit younger urban talent who rely on public transit. It is difficult to work at many life sciences company locations in suburban Central New Jersey without a car, though the Helix development in downtown New Brunswick will change that.



### Access to Appropriate and Affordable Real Estate

While many interviewees were originally from New Jersey or had strong ties there, some did note that they had explored location options elsewhere – primarily Bucks County, New York City, Westchester, and Long Island. None of these locations matched Central New Jersey when it came to the ability to scale at a reasonable cost, and the access to talent and customers.

A consensus of the stakeholder interviewees is that no other market in the Tri-State region offers the amount of available commercial lab space, plus the easy accessibility from both the New York and Philadelphia metro regions, that central New Jersey does.

Dr. Pena stated that no early-stage life sciences company should have real estate as their “top three costs” and central New Jersey offers the best option for real estate that is both appropriate, ready to occupy, and affordable.

As noted above, the first choice for many BCI graduates for their next move was space at the New Jersey Bioscience Center. However, several stated that there was no available space at the time and therefore they chose to locate in available commercial lab space in Monmouth Junction or Princeton. One interviewee noted that the challenge for many startup companies is that they do not have experience navigating the commercial real estate market; moving just a building over from the incubator makes for a seamless and convenient (and thus the most preferred) option.



### Access to Customers

Many of BCI’s graduates are CROs or other entities whose clients or partners are New Jersey-based pharma companies. Therefore, a Central New Jersey location is optimal. Hock Tan of Bionex noted that, while Bionex has clients in multiple locations, the concentration of pharma clients in New Jersey is “unrivaled.”

Robert Wenslow of Crystal Pharmatech noted that, while his Chinese partners had chosen to move most of the company’s operations to China, citing both lower-cost talent and lower-cost production, it was always important that Crystal maintain a presence in the U.S. With the current economic slump in China, Crystal’s operations in Cranbury, New Jersey have become more important as its Chinese customer base has collapsed and more business has shifted to the United States. Under these new economic factors, Crystal’s operations in Cranbury, where it currently has approximately 20 employees, are expected to grow.



### Access to Funders

While many interviewees mentioned the helpfulness of BCI’s investor roundtable events, none included access to funders as a reason to locate in New Jersey. Of the VC-backed companies that the Consultant Team spoke with, none were funded by New Jersey-based investors and noted that most life science investors are based in Massachusetts or California. That being said, however, no interviewees cited access to funding as a hindrance to being in New Jersey; none had considered relocating to be closer to their funders.

## 10. Key Challenges to Address

It was clear to the consultant team that BCI is highly regarded across the state by all the stakeholders we interviewed. There were some suggestions and thoughts about improvements that could be made to the facility:

- Equipment – more shared large equipment like freezers, mass spectrometer, NMR
- Amenities on campus – small-scale retail and food and beverage places, for example, all on campus/within walking distance
- Programming, marketing – more networking and learning events, more connections to BCI alumni, better messaging re: events as well as re: the offerings of BCI
- Funding – more events, training, and connections to funders and funding opportunities; a State VC program, perhaps
- Milestone rent – one tenant stated that milestone rent is a hindrance that prevents the tenant from recommending BCI to other startups; milestone rent is not common at incubators or for life sciences tenants in general

One additional recommendation for BCI (not from interviews, but rather from the Consultant Team) is to strategically develop a focus on and foster connections to the tech sector. As the biotech and tech sectors are increasingly merging – for example, AI drug discovery or medtech wearables – now is a key moment to leverage NJ assets like the Stevens Institute, NJIT, and Tech:United NJ. The next generation of incubators now includes maker spaces and engineering components, and BCI is well positioned to expand its offerings along these lines.



### Equipment

All the founders who spoke with the Consultant Team saw the value in the incubator's price point, but some wouldn't mind paying more if the facility had more shared equipment. Susan Levinson of BioAegis Therapeutics suggested that the State may have funds to purchase certain pieces like an ultracentrifuge, and services like equipment management could be organized with partners like Rutgers. She tells the story of a borrowed -80° freezer that her team used but couldn't maintain, so they lost some tissue samples; if maintenance services were offered (like at other incubators), it would be one less thing for the companies to worry about, and she would be happy to pay extra for those services.

Hock Tan and Frank Bedu-Addo both said they liked the shared equipment model and that there should be more at the incubator. Mike Johnson noted gaps in the shared resources like mass specs, NMR, and a clean room etc. He said that some companies use such equipment at Rutgers or Princeton, but only if they have affiliations there. Dr. Johnson also acknowledged the high cost of both providing and maintaining these spaces and equipment – too much for startups to bear alone, but important enough that companies would contribute toward the collective cost.

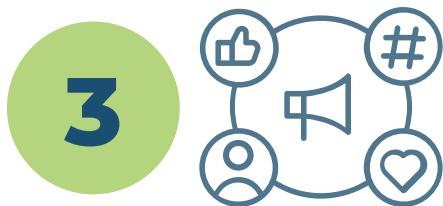
Rikin Mehta said he would have liked improved internet access, set up across the facility so that companies wouldn't have to set it up on their own. Other founders mentioned that the conference room scheduling has improved greatly but that they'd like better video conferencing capabilities.





## Location, Campus

With the growth of urban life sciences clusters on trend, the Consultant Team wondered how BCI's suburban location resonated with stakeholders. As described throughout this report, most founders appreciated the easy (although car-based) commutes to their suburban residences. A couple of people did wish for more amenities around the incubator; John Pena of Sonder Research X said that the one drawback of BCI's location is that you have to drive everywhere, no walkable amenities. "We budget for really good coffee and snacks in the lab," he said, "but it would be nice to have something on NJBC campus." Board member Vince Smeraglia recalled the exciting energy around the incubators in Cambridge, Massachusetts, with events, coffee shops and restaurants, and retail all in the immediate vicinity. He also cited the example of the venture café in Philadelphia's University City, where the higher activity level provides casual opportunities for networking and community.



## Programming, Marketing

Short of building a new downtown on Route 1, BCI constituents felt that while the facility has always done a good job with events, they would love more. Hock Tan, for example, would like programming that could foster relationships and collaborations among BCI startups and Rutgers; he also hoped for more community programming involving vendors presenting at the incubator. Mike Wiley also wants to foster both physical and programmatic connections between the Helix

in downtown New Brunswick (currently under construction) and BCI – bus routes, co-sponsored events, sharing of resources, etc.

Mike Wiley also suggested trying to cultivate the alumni network more, e.g., bringing them back as mentors, and encouraging them to start other companies. He cited Couragene and Amicus as examples of impressive leadership that would be great to foster. His last recommendations were around marketing for the incubator: "Lenzie and his staff do such a great job," he said, "it would be great to amplify that message" with things like its own URL, its own web presence, better branding, and more user-friendly digital tools to get information (like the newsletter and LinkedIn posts). Board member John Pennett agreed – "how do we let people know that there are so many good things happening in New Jersey? We need to celebrate our successes!"



## Funding, Incentives

Among the ideas for more events and improved marketing were those around investing and funding. Vince Smeraglia would like to bring more of the VC community to the incubator, for events and pitch days, for example, and even invite them to be on the Board. Events around teaching how to pitch would also be useful, especially for first-time entrepreneurs; fellow Board member John Pennett said that "if you're a have-not, it's very hard to get funded, as due diligence takes a long time and is a thorough, complicated process." Susan Levinson agreed – "a drawback to New Jersey," she said, is the limited access to capital relative to big cities like New York and Boston. Many others agreed with the need to attract more private venture funding to companies at the incubator.

While several of the companies the Consultant Team spoke to knew about and/or benefited from the State's incentive programs, founders like Hock Tan would like more messaging about the existing incentives that New Jersey offers.



### Milestone Rent

Roelof Rongen, founder of Innovative Molecules, noted that BCI's milestone rent provision is a hurdle for him and that, despite his admiration of the incubator, he could not recommend that other companies that he is involved with, including a startup from Memorial Sloan Kettering Cancer Center, take space at the incubator and be required to pay additional rent due to capital events or other financial milestones. It should be noted that milestone, or participation, rents were common in the 1990s but are less common in biotech incubators today.



*Exterior of Incubator at North Brunswick*

# APPENDIX A

**APPENDIX A**  
**BCI TENANTS (2002 – 2023)**  
**Tenancy, Company Type, Capital Raises, and Status**

	Name	Year of Incubator Entry	Year of Incubator Departure	Company Type	Employees at Graduation (When Known)	Capital Raise	Patents Issued	Detailed Status
1	Access Bio/Time & Cross	4/2002	3/2006	Diagnostics		\$11.88 million (IPO, 2018)	8	Business operations in Somerset, NJ.
2	Aeropharm	4/2002	3/2004	Drug Delivery		Parent company Kos Pharma acquired Abbott Labs for \$3.7 billion		Acquired by Abbott Laboratories in 2006/ departed NJ
3	Amicus Therapeutics	9/2002	8/2005	Drug Discovery	24	\$175 million (2 <sup>nd</sup> Public Offering, 2019)		2007 IPO. Grew to 484 employees, 144 in NJ HQ in Princeton, NJ
4	Chronocell	12/2002	12/2008	Drug Discovery	69	\$117.9 million (IPO in progress, 2023)	31	Grew to 180 employees. Downsize to HQ in Freehold, NJ
5	Forcell Bioscience (Oric International)	3/2002	9/2004	Cell / Tissue		\$38.24 million (2006)		Previous name of Oric International returned to New York upon departure from incubator in 2004. No record of company's continued existence.
6	GeneWiz*	7/2002	12/2006	CRO / Support	33	Acquired by Brooks Automation for \$442.7 million (2018)		Grew to 1518 employees, 220 remain in NJ. Acquired by Brooks Automation in 2018 and rebranded as Azeenta Life Sciences.
7	Semorex	3/2003	2/2007	Drug Discovery		Acquired for undisclosed amount	4	Incubator was company's first US foothold. Retreated back to Israel 2007. Acquired by MYOS Pharmaceuticals in 2013.
8	Vincogen	9/2003	8/2008	Diagnostics		No data available		Moved to Pennsylvania upon departure from incubator in 2008.
9	Biotech Support	10/2004	3/2009	Other (R&D Support)	4	No data available		Business operations continue in Monmouth Junction, New Jersey.
10	ProFACT	10/2004	3/2009	Diagnostics		No data available		Did not remain in business following departure from incubator in 2009/Closed Operations
11	Advaxis	6/2005	4/2011	Drug Discovery	57	\$210.6 million (2 <sup>nd</sup> Public Offering, 2019)		2005 IPO. Grew to 130 employees. Merged with Ayala Pharmaceuticals in early 2022. Presence in NJ continues.
12	Ennova MedChem	5/2005	5/2010	Other (Medicinal Chemistry)		No data available		Closed Operations
13	Izun Pharmaceuticals	12/2005	11/2006	Drug Discovery	1	\$1.12 million (2014)	17	Moved to New York upon incubator departure in 2008.
14	MaxyBio/ShanghaiBio	10/2005	9/2009	CRO / Support		No data available		No record of remaining in NJ after departure from incubator.
15	Orinoco	2/2005	4/2010	Medical Devices	11	Raised \$47.5 million through 2009 (led by Cannon Partners)	6	Moved operations to Irvington NY in 2010 to be closer to Canaan and CEO's home. Acquired by Abryx in 2013.
16	Sophion	9/2005	12/2010	Medical Devices	1	Acquired by Biolin Scientific for \$29.75 million (2011)		Incubator was company's first US foothold. Graduated to Bioscience Center until they were acquired by Biolin Scientific in 2011.
17	Aestus Therapeutics	6/2006	8/2011	Drug Discovery		No data available		The company moved to East Windsor before changing name (Aestus Partners LLC) and relocating to NC.
18	Clintech Research	11/2006	8/2011	CRO / Support		No data available		Moved to Washington, D.C. following departure from incubator in 2011.
19	HMGene	8/2006	9/2010	Drug Discovery		No data available		Did not remain in business following departure from incubator in 2010.
20	Rosetta Genomics	4/2006	4/2008	Drug Discovery		\$37.5 million (raised 2006-2008).	47	Incubator was company's first U.S. foothold. Moved to Jersey City following departure from incubator. Company eventually retreated to Israel. Declared bankruptcy in Israel in 2018.
21	3D Biotek	8/2007	4/2013	Medical Devices	6	Acquired for undisclosed price (2015)	3	Acquired by Mega Hill in 2015. Growth continues in Bridgewater, NJ.
22	Chemosphere	12/2007	11/2009	Other (natural products for drug components)		No data available		Did not remain in business following departure from incubator in 2009.
23	Neurolez	6/2007	3/2013	Drug Discovery		\$150 million (private equity investment, 2022)		Continued operations in Bridgewater, New Jersey.
24	PlasmaSol	3/2007	6/2009	Other (Gas plasma technology)		No data available	17	Acquisition by Stryker in 2006. Relocated by Stryker to Michigan.
25	S2H	8/2007	3/2013	Wellness / Nutrition		No data available		Continued growth until acquisition by Fibit in 2013 and departed NJ.
26	WeiGen	6/2007	5/2010	Wellness / Nutrition		Raised \$12.5 million before acquisition in 2012	6	Acquired by Amphion Innovation in 2012.
27	CellXplore	7/2008	5/2010	Diagnostics		Raised \$0.5 million before ceasing operations in 2018		Did not remain in business following departure from incubator in 2010.
28	Conversion Energy Enterprise	11/2008	11/2014	Medical Devices		No data available		Moved to New York following departure from incubator in 2014.
29	Intranasol/Ikano	2/2008	1/2011	Drug Discovery		Raised \$60 million before dissolving company in 2012	4	Left incubator after Upsher-Smith obtained global rights of their product.

# APPENDIX A (CONTINUED)

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**Tenancy, Company Type, Capital Raises, and Status**

	Name	Year of Incubator Entry	Year of Incubator Departure	Company Type	Employees at Graduation (when known)	Capital Raise	Patents Issued	Detailed Status
30	TRIM-edicine	2/2008	11/2012	Drug Discovery		\$2.1 million (2019)	1	Moved to Ohio following departure from incubator in 2012 to be closer to Founder who is Chair of Thoracic Surgery in the Department of Surgery at Ohio State University.
31	Accelax	3/2009	2/2013	Drug Discovery		No data available		Returned to California following departure from incubator in 2013. No record of continued growth.
32	Actinobac	3/2009	2/2013	Drug Discovery	2	\$6.4 million (2017)	5	Rugers spin-off. Remained in business in Kendall Park, NJ until going out of business in 2022.
33	Bionex*	2/2009	12/2013	Wellness / Nutrition	1	\$2.86 million (through 2017)		Continued growth in Step Out Labs in North Brunswick.
34	DiaLean	8/2009	7/2010	Drug Discovery		No data available		Did not remain in business following departure from incubator in 2010.
35	Nanon	7/2009	7/2014	Other (R&D support)		No data available		Continued growth in Livingston, NJ.
36	Orthobond*	8/2009	8/2013	Medical Devices	10	\$5.1 million (through 2022)	6	Operations continue in Monmouth Junction, NJ.
37	PCAsso Diagnostics	7/2009	4/2014	Diagnostics		No data available		Did not remain in business following departure from incubator in 2014.
38	Vasade	12/2009	12/2014	Drug Discovery		\$4.85 million (through 2022)	1	Business operations continue in Barnegat Light, NJ.
39	Brighter Ideas	8/2010	7/2015	Diagnostics		No data available		Did not remain in business following departure from incubator in 2015.
40	CSPC Dophen	7/2010	7/2011	Other (R&D support)		No data available		Moved to California following departure from incubator in 2011. Records show operations have ceased.
41	TAXIS Pharmaceuticals	9/2010	10/2015	Drug Discovery		\$3.2 million (prize grant, 2020)	9	Operations continue in Monmouth Junction, NJ.
42	Viya Pharma	8/2010	7/2014	CRO		No data available		Did not remain in business following departure from incubator in 2014.
43	Cryo-Save	9/2011	8/2012	Cell/Tissue		No data available		Retreated overseas (following departure from incubator in 2012.) Operation ceased in 2019.
44	Hurel	4/2011	2/2016	Cell / Tissue		\$10 million (raised through 2014)	5	Hurel assets acquired by Viskol in 2021. Viskol continues growth in Hampton, NJ.
45	LLTECH	4/2011	3/2013	Medical Devices		\$29.6 million (raised through 2023)	1	Changed name to AQUVRE Biosciences following departure from incubator. Moved to Massachusetts.
46	Movae Matrix	3/2011	3/2012	Drug Discovery		\$38.66 million through 2020	10	Operations continue in Morristown, NJ.
47	Nexomics	12/2011	10/2016	Other (R&D Support)		No data available		Growth continues in Rocky Hill, NJ.
48	Nutrasorb	10/2011	10/2016	Wellness / Nutrition		\$1.1 million (raised through 2011)		Business operations continue in Freehold, NJ.
49	Ascendia Pharmaceuticals	8/2012	8/2017	Drug Discovery	10	\$12.5 million (raised through 2022)	4	Impressive growth continues in 60K SF facility located in New Jersey Bioscience Center.
50	BioMed King	8/2012	6/2015	Diagnostics		No data available		Retreated back to China following departure from incubator in 2015.
51	Biocinol	3/2012	3/2014	Pharma / Drug Discovery		N/A	9	Portuguese pharma company. Retreated back to Europe following departure from incubator.
52	Fluidita	11/2012	1/2017	Diagnostics		No data available	1	Retreated back to Belgium following departure from incubator in 2017.
53	IKARIA	3/2012	3/2014	Pharma / Drug Discovery	19	Established pharma company acquired by Mallinckrodt for \$2.3 billion in 2015		Acquired by Mallinckrodt in 2015. Retains a presence in Bridgewater, NJ.
54	Shionogi	2/2012	1/2017	Pharma / Drug Discovery	1	N/A	2,035	Well established public pharma company headquartered in Japan. Business operations continue in Florham Park, NJ.
55	Celvive	4/2013	3/2017	Cell / Tissue		\$0.5 million (through 2021)		Still in business in Princeton, New Jersey.
56	GeneAssess	4/2013	3/2015	Diagnostics		No data available		Did not remain in business following departure from incubator in 2015.
57	Hudson BioPharma	2/2013	6/2018	Drug Discovery		No data available		Did not remain in business following departure from incubator in 2018.
58	Kamat Pharmatech	10/2013	12/2018	Drug Discovery	4	No data available		Business growth continues in Step Out Labs at North Brunswick.
59	Linnovision	1/2013	1/2014	Wellness / Nutrition		No data available		Did not remain in business following departure from incubator in 2014.
60	OncoDe-Med	12/2013	12/2014	Medical Devices		No data available		Did not remain in business following departure from incubator in 2014.
61	PDS Biotechnology*	7/2013	10/2018	Drug Discovery	5	\$51.75 million (2 <sup>nd</sup> Public Offering, 2021)	23	IPO following incubator graduation. Growth continues in Princeton, NJ.
62	QualComp Consulting	12/2013	11/2017	Other (Consulting)		No data available		Moved to Washington, D.C. following departure from incubator in 2017.
63	SkinAxis	3/2013	3/2018	Other (R&D Support)		Received \$0.3 million grant (2017)		Still in business in Cedar Knolls, New Jersey.
64	Vyzin Inc. / Veesag	6/2013	5/2017	Medical Devices		No data available		Operations continue with the name Veesag.



# APPENDIX A (CONTINUED)

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65	3e Bioenergy International	9/2014	8/2015	Other (Agricultural Biotechnology)		No data available	8	Did not remain in business following departure from incubator in 2015.
66	Aucta Pharmaceuticals*	5/2014	2/2019	CRO	18	\$14 million (raised in China from Chinese investors)	3	Substantial growth into 5 acres/60K SF site in Picataway, NJ.
67	BioAegis Therapeutics*	7/2014	7/2019	Drug Discovery	7	\$22 million (through 2022)	3	Significant fund raising and continued growth in Step Out Labs at North Brunswick.
68	Crystal Pharmatech*	3/2014	3/2017	CRO	18	\$43.22 million (through 2020)	58	Growth continues in Cranbury and West Windsor, NJ.
69	Grace Therapeutics*	10/2014	3/2019	Drug Discovery	7	Acquired by Acasi Pharma for \$60.82 million in 2021	6	Assets acquired by publically traded Acasi Pharma in 2021. Business operations, with most of the Grace team intact, continues in Princeton, NJ.
70	Novanex	1/2014	5/2018	Medical Devices		No data available		Merged with Blonex in 2018. Operations continue in Step-Out Labs at North Brunswick.
71	Urgen	11/2014	10/2019	Drug Discovery	2	\$5.38 million (raised through 2022)	57	Continued growth in Bound Brook, NJ as Vanelix.
72	V ClinBio	3/2014	2/2015	CRO		No data available		Still in business in Newark, New Jersey.
73	Bellerophon	3/2014	8/2019	Drug Discovery		\$180 million (raised through second public offering in 2020)	6	IPO and continued growth in NJ until 2023 when the company terminated most of its workforce
74	Pre-D Partners	4/2015	5/2017	Wellness / Nutrition		No data available		Operations downsized upon exit from incubator
75	SunGen Pharma	8/2015	9/2016	Drug Discovery	20	No data available		Growth continues under new name Praxigen Pharmaceuticals. Praxigen is a subsidiary of Arthur Pharma of China. Operations in Monmouth Junction, NJ.
76	API Pharma Tech	11/2016	4/2022	Other (R&D Support)	4	No data available		Growth continues in Monmouth Junction, NJ
77	Celmatix Clinical Labs	11/2016	12/2018	Diagnostics	11	\$83.5 million (through 2020)	15	Incubator was company's first foothold outside of NYC. Following reorg in 2018 incubator lab was closed. Operations continue in NYC.
78	Quigen Inc.	11/2016	3/2019	Drug Discovery		No data available		Downsized in 2019 and departed incubator.
79	Visikol*	3/2016	5/2018	Bio-Imaging	6	Acquired by Celink for \$7.5 million (2021)	1	Rugers sph-off was acquired by Celink of Sweden in 2021. Visikol's impressive growth continues in Hampton, NJ.
80	Argex Pharmaceuticals	7/2017	6/2022	Drug Discovery		No data available	5	Still in business in East Brunswick, NJ.
81	EUProtein*	12/2017	10/2022	Diagnostics	4	Acquired in 2022, no financial data available		Acquired by Meridian Life Sciences in 2022. Growth continues within Step Out Labs at North Brunswick.
82	Genomic Predictions / Lifeview Laboratory Services*	6/2017	2/2022	Diagnostics	57	\$12 million (through 2021)		Impressive growth continues under new name of Lifeview Laboratory Services. Operations located at New Jersey Bioscience Center.
83	Health Interactive	11/2017	11/2020	Digital Health / Bioinformatics		No data available		Did not remain in business following departure from incubator in 2020.
84	Innovera Pharmaceuticals	9/2017	8/2021	Drug Discovery	1	No data available		Impressive growth continues at new 30K SF biomanufacturing and R&D facility in Monroe, NJ.
85	SPES Pharmaceuticals	10/2017	6/2023	Drug Discovery	3	\$2 million (2017)		Still in business in Plainsboro, New Jersey.
86	Abidha Research Solutions	11/2018	10/2019	CRO		No data available		Did not remain in business following departure from incubator in 2019.
87	AcrysPharma	12/2018	11/2020	Other (Consulting)		No data available		Did not remain in business following departure from incubator in 2020.
88	Bright Cloud International	3/2018	2/2023	Medical Devices		\$0.5 million + undisclosed amount (through 2021)		Downsized and still in business in Highland Park, NJ.
89	Geneis Imaging Services aka Pharmarex	8/2018	8/2021	Imaging	2	No data available		Growth continues in Princeton, NJ.
90	Milo Pharma	12/2018	11/2022	Drug Discovery		No data available		Downsized upon departure from incubator in 2022.
91	NJ Biopharmaceuticals*	7/2018	6/2021	CRO	40	\$5.62 million (2023)	2	Substantial growth into an 80K SF, former BMS, facility in Hopewell, NJ. Company employs over 100 with plans to hire up to 125 scientists
92	Sunnylife Pharma	3/2018	2/2020	Drug Discovery		\$0.5 million (2016)	1	Still in business in North Brunswick, New Jersey.
93	Calyptus Pharmaceuticals	11/2019	10/2022	Other (R&D Support)	4	\$4 million (2018)		Assets acquisition facilitated by Provepharm in 2022 and moved to Princeton.
94	Fidelis Animal Health	3/2019	11/2023	Other (Animal Therapeutics)	3	\$5.3 million (2021)		Strong fund raising and continued growth in Step Out Labs at North Brunswick.
95	HistoBridge	5/2019	est 4/2024	CRO		No data available		Growth continues within incubator as of 2023.
96	TheWell Bioscience	1/2019	est 7/2024	Other (R&D Support)	2 (currently)	No data available	2	Growth continues with the company expected to graduate and expand into larger space in 2024.
97	JMS Pharma	6/2020	est 5/2025	CRO	1 (currently)	No data available		Continued growth within incubator as of 2023.
98	Molecular Innovation*	1/2020	est 1/2025	CRO		No data available		Operations continue in incubator as of 2023.
99	Skunkworx Labs	7/2020	est. 2025	Drug Discovery	2 (currently)	No data available		Continued growth in incubator as of 2023.
100	Smirta Innovation	8/2020	est. 2025	Digital Health	6 (currently)	No data available		Continued growth in incubator as of 2023.

# APPENDIX A (CONTINUED)

APPENDIX A  
BCI TENANTS (2002 – 2023)  
Tenancy, Company Type, Capital Raises, and Status

	Name	Year of Incubator Entry	Year of Incubator Departure	Company Type	Employees at Graduation (when known)	Capital Raise	Patents Issued	Detailed Status
101	Sonder Research*	6/2020	est. 2025	Imaging	15 (currently)	No data available		Cornell Medical School spin-off continues growth within incubator as of 2023.
102	Delve Therapeutics	2/2021	est. 2026	Drug Discovery	2 (currently)	No data available		Operations continue in incubator as of 2023.
103	Echo Biosolution	8/2021	7/2023	Diagnostics	1	No data available		Recently departed incubator.
104	Pharmasol/Genesis	5/2021	4/2022	Digital Health		No data available		Growth continues in Princeton, NJ.
105	Chrom-Matrix	10/2022	est. 2027	Other (Chromatography)		No data available		Operations continue in incubator as of 2023.
106	Couragene*	9/2022	est. 2027	Drug Delivery	3 (currently)	\$2.6 million (2022)		Growth continues in incubator as of 2023.
107	Ladiga*	10/2022	est. 2027	Drug Discovery	2 (currently)	\$1.6 million (2021)	1	Fund raising and growth continues in incubator as of 2023.
108	Neoventech	4/2022	est. 2027	Drug Discovery		No data available		Operation continues in incubator as of 2023.
109	OLI Therapeutics	4/2022	est. 2027	Drug Discovery		No data available		Growth continues in incubator as of 2023.
110	Osseoprint 3D*	1/2022	1/2024	Other (3D Printing)		\$6 million (2022)	1	Growth continues with the company expected to graduate and expand into larger space in 2024.
111	Hopkins MedTech	5/2023	est. 2028	Other (Consultant)	5 (currently)	No data available		Operations continue in incubator as of 2023.
112	Linus Biotechnology*	3/2023	est. 2028	Diagnostics	7 (currently)	\$25.8 million (2023)		Mount Sinai spin-off raised \$25M in 2023 and continues growth in incubator.
113	Quantara	3/2023	2/2024	Other (R&D Support)		No data available		Expected to graduate in 2024.
114	Zena Pharmaceuticals	8/2023	est. 2028	Drug Discovery	2 (currently)	\$1 million (2023)		Rutgers spin-off recently established operation in incubator

Remains in New Jersey
Acquired/Merged
Moved out of state
Moved overseas
Out of business
Recent departure from incubator (too soon for a status update)
Still in incubator

# APPENDIX B

## Appendix B BCI Indirect and Induced Impacts on Other Industry Sectors in New Jersey

### Impacts on Other Industries

This section highlights the top 10 industries impacted by scientific research and development services attributed to BCI tenants and graduates in terms of indirect and induced employment and output in 2023. Impacts on the top 10 industries are only indirect or induced because direct impacts only occur in scientific research and development services. These rankings data are based on industry/regional averages for labor trends as calculated by IMPLAN.

Companies that are current tenants or graduates of BCI have primarily generated output among the scientific research and development services industry. The two tables below highlight the employment and output produced by BCI tenants and graduates in this industry for 2023.

### Scientific research and development services

	Employment
Direct	1,040
Indirect	106
Induced	6

### Scientific research and development services

	Output
Direct	\$318,489,543
Indirect	\$32,331,348
Induced	\$1,830,958

Business-to-business interactions between these tenants and other industries have generated additional indirect and induced output. The two tables below include the top 10 industries (excluding scientific research and development services) impacted by BCI tenant and graduate operations in terms of indirect and induced employment and output for 2023.

# APPENDIX B (CONTINUED)

## Top 10 Indirect and Induced Employment Industries

Industry	Indirect Employment	Induced Employment
Other real estate	138	30
Employment services	90	18
Management consulting services	57	7
Legal services	41	8
Management of companies and enterprises	33	8
Architectural, engineering, and related services	21	2
Marketing research and all other miscellaneous professional, scientific, and technical services	14	1
Services to buildings	13	6
All other food and drinking places	12	19
Monetary authorities and depository credit intermediation	11	11

## Top 10 Indirect and Induced Output Industries

Industry	Indirect Output	Induced Output
Other real estate	\$29,980,593	\$6,533,368
Owner-occupied dwellings	\$0.00	\$20,205,892
Employment services	\$11,869,252	\$2,419,441
Management of companies and enterprises	\$10,263,178	\$2,566,366
Management consulting services	\$10,959,603	\$1,272,158
Legal services	\$9,858,032	\$1,958,975
Hospitals	\$0.00	\$9,389,517
Monetary authorities and depository credit intermediation	\$4,532,529	\$4,316,383
Marketing research and all other miscellaneous professional, scientific, and technical services	\$6,141,598	\$486,411
Insurance carriers, except direct life	\$1,621,114	\$4,419,547



# APPENDIX C

## APPENDIX C: Landscape Overview: Incubators in the New Jersey – New York – Pennsylvania Region

BCI and the affiliated Step-Out Labs are now part of a growing and robust biotech landscape across the state. In addition to BCI, for example, there is a Biolabs incubator in Princeton and a new incubator in Summit sponsored by Bristol Myers Squibb. Numerous larger spaces for more mature companies exist or are being built, including the Northeast Science and Technology Center (NEST) located in a former Merck facility in Kenilworth, Princeton Corporate Plaza in Monmouth Junction, and the planned Helix project in downtown New Brunswick. And while not in the immediate vicinity, the Pennsylvania Biotechnology Center (PABC) in Doylestown, PA is a successful incubator facility in a suburban location similar to BCI.

The stakeholders interviewed by the Consultant Team included the directors of Princeton Biolabs and PABC as well as company founders with direct experience with the various facilities; they offered their thoughts as described below. A comparison matrix of life sciences incubators in the New Jersey-New York-Pennsylvania region is shown in Table C-1 in this Appendix.

### Talent

The access to talent and the affordable rents at BCI were big factors for many founders. **Guangli Wang** of EUProtein said that Philadelphia and Jersey City were too far from his employee base – “life sciences firms grow in NJ because of the talent pool,” he said. **Susan Levinson** of BioAegis agreed – NJBC was close enough to the whole pharma corridor; she had considered “nicer space at the Celgene incubator in Summit” (which “had better equipment,” too) but the commute was too far for her team; the same went for 95 Greene Street in Jersey City.

**John Pena** of Sonder Research admitted that “New York City is tough – the housing is so expensive and I want our scientists to be able to buy a house, send their kids to good schools,” and New Jersey was more amenable to that. He added, however, that some people like advisors and investors don’t want to come out to the suburbs so it’s good to have a Manhattan presence (Sonder has an office in Hudson Yards). John had considered Westchester County in New York State but that market had a very high cost of living, very limited lab space, and not as large a talent pool as New Jersey’s.

### Regulatory Environment

**Ronak Kadakia** of Linus Bio had also mentioned Westchester County as an area she’d considered for LinusBio. But her priority was speed to market, as mentioned above; she told the Consultant Team that Clinical Laboratory Improvement Amendments (CLIA) regulations in New York State for a diagnostics company were very stringent and

# APPENDIX C (CONTINUED)

permits and licenses to get a lab certified took 18 months in New York State vs. three months in New Jersey. Westchester, therefore, was also off the table.

## Cost

**Shoufeng Li** of Aucta Pharma remembers it being hard to comparison-shop at the time that he was looking for incubator space because there weren't that many options; location- and facility-wise, CCIT was the best option. "The price point was very good," he said, "more affordable than Princeton Biolabs and New York City labs."

**Bob Wenslow** also agreed that the rent at CCIT was perfect for Crystal Pharma because of the flexible lease terms; in fact, he said, he would have paid more for the space.

## Other incubators

**Frank Bedu-Addo** of PDS Biotechnology recently moved to Princeton Biolabs, which is more expensive but provides more equipment and services. "It attracts a different type of company than BCI does," he said. The Consultant Team spoke to **Princeton Biolabs director Beth Rowley**, who agreed: "most Biolabs companies are independent people starting companies – a businessperson, physician, someone with a university affiliation rather than a founder coming out of pharma." She added, "if you're not doing cell culture or electrophoresis, then BCI is probably your space." At Biolabs, the rent includes shared access to the equipment and facility, and they take care of hazardous waste, permits, etc. Beth's resident companies are very small, very life-science-focused companies. This incubator has a few private spaces but not as many as BCI; the biggest private lab at Biolabs is 800 square feet.

BCI Advisory Board member **Vince Smeraglia** said that the BMS incubator in Summit was "more niche-y," as they focus on companies that do biologic therapeutics work; they turn down many more companies than BCI. They do, however, have more shared equipment and offer startups more direct access to exit and acquisition given their parent affiliation. **Debbie Hart** of BioNJ agreed on all counts.

**Michael Johnson**, who recently became president of **NJII**, mentioned the VentureLink space at NJIT. The facility is approximately 110,000 square feet in size, but includes daycare and event spaces, with only about 10% of it dedicated to science-related startups. It's currently "more of a real estate play," he said, "and we're trying to become more of an incubator." He also acknowledged that it is harder to get to than BCI because it's in downtown Newark.

## The Pennsylvania Biotechnology Center Incubator

The Consultant Team also spoke with **Louis Kassa**, who became President of the **Pennsylvania Biotechnology Center (PABC)** in Doylestown, PA in 2022. Similar to BCI, PABC is a state-supported non-profit life sciences incubator with an economic development mission to grow the life sciences sector in its region and state.

# APPENDIX C (CONTINUED)

Established in 2006 by the Hepatitis B Foundation with funding from the Commonwealth of Pennsylvania and Ben Franklin Technology Partners of the Pennsylvania Department of Community and Economic Development, PABC's focus has broadened beyond hepatitis research to encompass a broad cohort of early- and mid-stage life sciences companies. PABC is managed by the Hepatitis B Foundation-affiliated Baruch Blumberg Institute. According to a study PABC commissioned and released in 2022, the total economic impact of the incubator and its affiliated organizations for the Commonwealth of Pennsylvania over the six-year period between 2016 and 2021 was \$7.3 billion.

PABC was initiated with the renovation of an existing building in 2006 to house nonprofit research organizations and early-stage biotech companies in one facility. Over the years, two adjacent buildings were purchased and renovated in order to accommodate a growing local biotech sector. In 2021, PABC completed a \$19 million 37,000 square-foot capital expansion that has resulted in a 150,000-square foot state-of-the-art facility in Doylestown that currently houses over 50 companies at its incubator. PABC is also affiliated with the newly opened B+ Labs at Cira Center at University City in Philadelphia.

Similar to BCI, PABC offers a wide range of amenities, professional support services, and programming for its tenants. In addition to the 50 tenant companies at the incubator, there are 30 non-tenant companies that are members of PABC and have access to its services and programs.

Unlike BCI, PABC does not have any term limit on its tenants and therefore many of its occupants have been at the facility for much longer periods, some up to seven years. PABC also has a venture fund for its early-stage tenants; the Hatch BioFund recently closed a \$50 million funding round that has seen investments from the Bucks County Employee's Retirement Board, the Japanese pharmaceutical company Daiichi Sankyo, whose U.S. headquarters are in Basking Ridge, NJ, and the Provco Group, a commercial real estate firm in Villanova, PA.

The Baruch Blumberg Institute and PABC's management is also exporting the PABC model to incubators in other markets, including South Carolina and Southern California.

# APPENDIX C (CONTINUED)

**Table C-1: Comparison Matrix of NJ-NY-PA Life Sciences Incubators**

Location	Number of Tenants	Theme or Focus	Space	Rents (monthly)	Lab Amenities	Other Amenities	Programs
No. Brunswick, NJ	18 - 20	General Life Sciences Affordable lab space (NJ economic development incentives apply and are selected)	50,000 SF; 27 labs labs: \$100 - \$300 SF Offices are plug and play		NMR Shimadzu Autoclave	Conference Rooms Reception Services Kitchens	Regular speaker events VC training events Entrepreneurial Professional Advisory Board Networking events
New York, NY	30+	Co-working space for science start-ups Partnership of Biobab + NYU Langone "Foster entrepreneurial and innovation ecosystem"	50,000 sf. labs are plug + play; offices. Open + private lab and offices	\$400 member fee, \$3800 per bench (includes desk), \$800 for desk only	Cell Counters, Cold Storage, Sterilization Equipment, Imagers and Plate Spectrophotometers	Conf rooms, reception, kitchen, game room, event space. Access to scientific core facilities at NYU & other New York Institutions.	Equipment training - Environmental Health & Safety (EHS) support, including: • Hazardous waste management • Safety training • OSHA-compliant emergency eye washers, shower stations, and fire extinguishers -Lab coats and lab coat laundering
Princeton, NJ		Co-working space for science start-ups Aligned with Princeton University "Foster entrepreneurial and innovation ecosystem"	On-demand lab and office space	\$1,500 per drylab bench \$2,500 per wetlab bench \$1,000 per private office	PCR Machines, Freezers and refrigerators, Plate readers, Microscopes, Centrifuges, Vortexers, Cell Imagers, Flow cytometry, Freeze dryer, Ovens, PCR, Plate reader, Centrifugal reagent & consumables	Conference Rooms Printers and copiers Cafeteria and group purchasing	Seminar programs focused on technology topics and professional development VC Connections Networking events and other social events
Summit, NJ	18 lab benches	Shared lab and office space within the Celgene complex in Summit	16,000 sf total, 16 offices with 39 desks		4 BSL-2 suites + 2 BSL hoods, 2 chemical fume hoods, Deionized water, Ice, Freezers and refrigerators, Centrifuges, CO2 incubators, Microscopes, FACB, PCR, Plate reader, Centrifugal reagent & consumables	5 huddle rooms 2 large conference rooms Kitchenette Event/ lecture room	Programs/lectures with BMS/Celgene Advisory Board EHS training and onboarding
New York, NY	20+ pre-seed on startup human and planetary health	Biotech accelerator space + cohorts, parent company SOSV, Other location is SF.	25,000 sf. BSL-1 and BSL-2 wet labs	rent and access to the equipment is free. Users pay for disposable plastics, reagents, cell lines and other consumables.		140-person event space, Two open office areas, conf rooms, reception, party/kitchen	
Union, NJ	Currently 9 tenants	Life science technology accelerator, driven research institute located at Kean University that works in partnership with innovators, affiliated academic and biomedical institutions. view it SE as a research incubator with an incubator, not an institute by itself. New part of the CARB-X Global Accelerator Network. 20,000 SF of new space. 600 or 1,200 SF labs	15,000 SF of labs and offices + more office space at Kean Looking to build space.	Flat rates + additional rates for shared equipment	Lab support and equipment rooms include core chemistry, molecular and cellular biology equipment, high-end analytical instrumentation, molecular biology, cell sorting and microscopy equipment, and super-computer facilities. Incubator laboratories are furnished with new benches, shelves, chairs, flammable and chemical storage units, fume hoods, refrigerator/freezer, safety equipment and Microscopes, PCR machines, plate readers, shaker tables, stir plates, centrifuges, balances, power sources, plate readers, shaker tables, stir plates, centrifuges, spectrophotometers, ultra-cold freezer space (-20C or -80C), compound and inverted microscopes, HPLC, UHPLC, Optical Emission Spectrometer, access to wash and autoclave facilities and other general and specialized lab equipment. Major equipment includes a Varian 400MHz NMR with auto-sampler, mass spectrometers ICP, GC MS, Perkin Elmer FTIR, RT PCR, Optima ultracentrifuge Bioprocessor 8 in process synthesizer, ISCO Condilash R1 automated liquid handling system, Beckman Coulter DASH 8000, 3D projection LCD and visualization and 3D projection LCD and two 3D projection systems.	Entrepreneur Center Business Services Network Partners Seminars and regular programming PR/marketing/basic admin support	ILSE hosts regular events program with events connected to its research program or that support regional innovation, including broader drug development, and events that are valuable to entrepreneurs in the region
New York, NY	35+ tenant companies	One of worldwide network of incubators under JHU Innovation	30,000 sf total space	Flat rates + additional rates for shared equipment, \$4000 per bench per month	Classroom and lab space, Chem, cell culture, core reagent, processing, research, Biosafety Cabinets, Incubators, Shakers, Centrifuges, Microscopes, Fume Hood, HPLC, Lyophilizer, Autoclave, Glass Wash, Dry and Wet box, Mill-Q, Water Purification System, CO2 incubator, PCR, PCR thermocycler, Flow Cytometry, Microscopy, BioProcess Systems, 3-D Printers, Electronic Testing & Assembly, Laser Culture	event space, reception, offices,	
Newark, NJ	Currently 55 tenants	Operated through NJ's NJ largest incubator in NJ with a broad focus on tech startups, including but not limited to the life sciences. Broad range of flexible spaces for entrepreneurs, remote employees, local startups and established businesses.	98,000 SF of office and lab space 11,000 SF of co-working space	Differing rents for the following space types: Flex Desk Private Office (\$22 per SF) Private Lab Daily Pass (\$25 per day)	Bench space, vented hoods, modular layouts	Meeting Rooms Treadmill Desks Full Kitchen	Regular events and networking
Doylestown, PA	40 small to medium-size science, research, and pharma cos in incubator. 75 member companies at Center.	PA/DC is a nonprofit life sciences laboratory and office space to early stage biotech companies, as well as to two nonprofits: the Hepatitis B Foundation and its research arm, the Bialski Shumway Foundation. One of the incubators at its main 150,000-sf lab facility in Doylestown and new 50,000 SF lab facility at Cira Center in Philadelphia	\$105 - \$150 per SF for lab space \$15 - \$25 per SF for office space		CO2, Nitrogen, Other Gases, BioSafety Cabinets, Chemical Fume Hoods, Acid/Flammable Storage, In Water, Eyewash, On-site lab supplies for purchase, Cold Room (4C), Dark Room/Film Processor, Glassware Washer, Ice Machine, Liquid Nitrogen Freezer, Liquid Scintillation Counter, Plate Reader, Sonicator, Steam Sterilizer, Super Speed Centrifuge, Ultra Centrifuge, Ultra Pure Water	Meeting Rooms Conference Rooms Events Center	Assistance with purchasing equipment and supplies. Access to venture capitalists. Special annual events to promote companies at the Biotech Center. Professional conference affiliations. Grant assistance, Legal consultation, and on-site life sciences and business consultants available for a fee

Source: Research by BJH Advisors Consulting Team, Oct.-Nov. 2023