YEAR IN REVIEW

BUILDS BIO+

OPENING REMARKS

NANCY J KELLEY

Nancy J Kelley + Associates, President & CEO. Builds Bio+, Founding Member and Steering Committee

MITCHEL W. SIMPLER

JB&B, Managing Partner Emeritus. Builds Bio+, Founding Member and Steering Committee

THANK YOU TO OUR FOUNDING MEMBERS

NANCY J KELLEY + ASSOCIATES

JB&B

HUNTER ROBERTS CONSTRUCTION GROUP

Fried Frank

SABEY Data Centers

THANK YOU TO OUR CORPORATE MEMBERS

THANK YOU TO INCUBATORS/ACCELERATORS

ABCT
BioBAT
BioInc@NYMC
biolabs @ NYU LANGONE
Cure Innovation Labs℠
ENTREPRENEURSHIP LAB BIO AND HEALTH TECH NYC
Hb HARLEM biospace
HAX
INDIE BIO
WE ARE SOSV
SUNY Downstate Medical Center
Next Milestone
Weill Cornell Medicine Enterprise Innovation
THE CATALYST WESTCHESTER COUNTY BIOSCIENCES ACCELERATOR
Columbia Technology Ventures
Cultured Colonies
IC INDUSTRY CITY
Newlab

THANK YOU TO OUR PROGRAM PARTNERS

NJEDA ECONOMIC DEVELOPMENT AUTHORITY

NYC EDC

THE CATALYST WESTCHESTER COUNTY BIOSCIENCES ACCELERATOR

BioCT

BioNJ Because Patients Can't Wait

AIA Pennsylvania

ACEC/PA American Council of Engineering Companies of Pennsylvania

Ben Franklin Technology PArtners Southeastern Pennsylvania

biolabs PHILADELPHIA

Department for Business & Trade

CBM CENTER FOR BREAKTHROUGH MEDICINES

PACT

PENNSYLVANIA BIOTECHNOLOGY CENTER Est. by the Hepatitis B Foundation

THE CHAMBER of Commerce for Greater Philadelphia

CENTER FOR BIOTECHNOLOGY A New York State Center for Advanced Technology Applied Research and Development Program

Sc science center

THE WISTAR INSTITUTE

WIB Women In Bio Philadelphia Metro Philadelphiametro@womeninbio.org

INNOVATION SPACE

REBNY Real Estate Board of New York

THANK YOU TO OUR MEDIA PARTNERS

THE COMMERCIAL OBSERVER

GEN Genetic Engineering & Biotechnology News

THE WALL STREET JOURNAL WSJ

AGENDA

- ABOUT BB+
- 2023 IN REVIEW
- PLANS FOR 2024
- CHAPTERS
- UPCOMING EVENTS

ABOUT

Launched in 2018, **Builds Bio+** aims to connect all segments of the life science ecosystem in major regional clusters, through events, research, industry reports and educational programs.

A 501(c)(3) nonprofit membership-driven organization, Builds Bio+ is dedicated to bringing the life sciences innovation community together, serving as the go-to place to find information about and assistance with growing, building and locating life science companies in the major life science clusters it serves.

Initially, Builds Bio+ focused on the growth and development of the life science cluster in New York City, but its work now encompasses the Greater NY Metro area (which includes New York City and surrounding counties of New York, Connecticut, New Jersey, and Pennsylvania.) In 2022, Builds Bio+ held the first annual Symposium in Philadelphia.

MAILING LISTS

NY Metro	Greater Philly Area
10,252	3,481

WEBSITE VISITS

- 11,000 Monthly

MEMBERSHIP OVERVIEW

Year	Corporate Membership	Individual Membership
2019	27	49
2020	26	51
2021	33	24
2022	45	59
2023	49	63

NEW MEMBERS 2024

brandywine REALTY TRUST

B+labs POWERED BY THE PENNSYLVANIA BIOTECHNOLOGY CENTER

Flad

PCI PERFORMANCE CONTRACTING INC

PENNSYLVANIA BIOTECHNOLOGY CENTER Est. by the Hepatitis B Foundation

PHCbi

The City College of New York

AZZUR LABS

Caballeta Bio®

PMM

Queens Chamber of Commerce

SPOTLIGHTS

KATIE NILSEN
VICE PRESIDENT, DEVELOPMENT & STRATEGY
E-J ELECTRIC INSTALLATION CO.
SPOTLIGHT

Member Spotlight
MATT MENDICINO
Ennead Architects

Leadership Committee
Member Spotlight
GREG FORTINO
METROPOLIS GROUP

MEMBERSHIP PORTAL FEATURES

- **Membership**
  - Member Profiles
  - Member Directory
  - Member Spotlights
- **Events**
  - Online Registration
  - Credit Card Payments
  - Group Registration
- **Community**
  - Chapter Groups
  - Feeds | Forums
  - Community News

My Profile | Directory | Messages | Groups | Quick Links

Builds Bio+

Builds Bio+

Groups 2

Photos 0

Message

Contact Info

Builds Bio+

info@buildsbio.org

380 Lexington Ave. Suite 1505
New York, New York 10168
United States
View on map

Activity | About | Photos | Sub-Accounts | More

Professional Information

Organization Name:	Builds Bio+
Address:	380 Lexington Ave. Suite 1505, New York, New York 10168 United States View on Map
Additional:	212 4507300 (Phone) Visit Website »
Number of Employees	2

More Information

Launched in 2018, Builds Bio+ aims to connect all segments of the life science ecosystem in major regional clusters, through events, research, industry reports and educational programs.BRBRInitially, Builds Bio+ focused on the growth and development of the life science cluster in New York City, but its work now encompasses the Greater NY Metro area (which includes New York City and surrounding counties of New York, Connecticut, New Jersey, and Pennsylvania.) In 2022, Builds Bio+ held the first annual Symposium in Philadelphia.

Your Sub-Accounts

Options	Member Name/Organization	Account Status	Last Modified
	Nancy Bocanegra Builds Bio	Enabled	8 hours ago
	Karolina Brodka Builds Bio	Enabled	8 hours ago
	Olga Justiniano Builds Bio	Enabled	8 hours ago
	Samantha Kane Builds Bio	Enabled	8 hours ago
	Nancy Kelley Builds Bio	Enabled	8 hours ago
	Kate McDonough Builds Bio	Enabled	8 hours ago
	Ursula Naclerio Builds Bio	Enabled	8 hours ago
	Mitch Simpler Builds Bio	Enabled	8 hours ago


TOTAL MEMBERSHIP ACCOUNTS
1062

EVENTS OVERVIEW

Year	Number of Events	Number of Registrants	YouTube Viewers
2018	1	401	
2019	6	753	135
2020	12	1553	1021
2021	13	1096	114
2022	15	2323*	1528
2023	15	1856	1421
Total	62	7982	4219

**Hybrid Events allowed for larger audiences post pandemic.*

BUILDS BIO+

WHAT'S NEW FOR 2024

NEW CHAPTER

LONDON/UK
BUILDS BIO+

NY METRO
BUILDS BIO+

PHILLY
BUILDS BIO+

UPCOMING EVENTS

Q1

- February 21, 2024: Philadelphia Life Science Real Estate Outlook
- February 28, 2024: New York Metro Life Science Real Estate Outlook
- March 13, 2024: London Life Sciences Research Report & Findings (Savills-Partnered Event)
- March XX, 2024: Cross-Market Virtual Program
- March XX, 2024: Builds Bio+ Leadership Dinner

UPCOMING EVENTS

Q2

- April 22 - April 24, 2024: London Life Sciences Study Tour (By Invite)
- May 6th – 9th: SynBioBeta: The Global Synthetic Biology Conference, San Francisco CA
- May 13th – 17th: BioNJ BioPartnering Conference
- May 29th – 30th: Yale Innovation Summit, New Haven CT
- May 29th: Jersey City Summit, Jersey City NJ
- June 3rd – 6th: BIO International Convention, San Diego
- June 13th – 14th: Biodesign Challenge Summit, MOMA NY
- May/June: Philadelphia Program: Financing Life Sciences - Strategies for Increasing Capital & Deal Flow
- May/ June: New York Metro Event (Neighborhood Showcase)
- June XX: Cross-Market Virtual Program

UPCOMING EVENTS

Q3

- July/August: Philadelphia Program: Showcasing Local Institutions & Building the Next Big Innovation Hub
- July/August: New York Metro Event (neighborhood showcase)
- July/August, 2024: Cross-Market Virtual Program
- September XX, 2024: Philadelphia Symposium

Q4

- October 7th – 9th: Canada SynBio, Toronto, Canada
- November 19th – 13th: Biofabricate Summit: Paris France
- November XX: New York Metro Life Sciences Symposium
- November: Philadelphia Member Appreciation Event
- December XX: NY Metro Member Appreciation Event
- December XX: Cross-Market Virtual Year End Review
- December XX: Commercial Observer Life Sciences Forum, New York, NY

WELCOME REMARKS

CYTO | PHL
LEARN. MEET. CONNECT.

JOHN NEW

CYTO|PHL, CEO & Co-Founder and Author, 98 Octane

KEYNOTE SPEAKER

JOEL NAROFF

Naroff Economics LLC, President and Founder

KEYNOTE SPEAKER

CBRE

MATTHEW GARDNER

CBRE, Head of Life Sciences, Americas

Life Sciences Landscape

Matt Gardner
Head of Advisory
Life Sciences

FEBRUARY 21, 2024

Trends and 2024 Outlook in Life Sciences

01

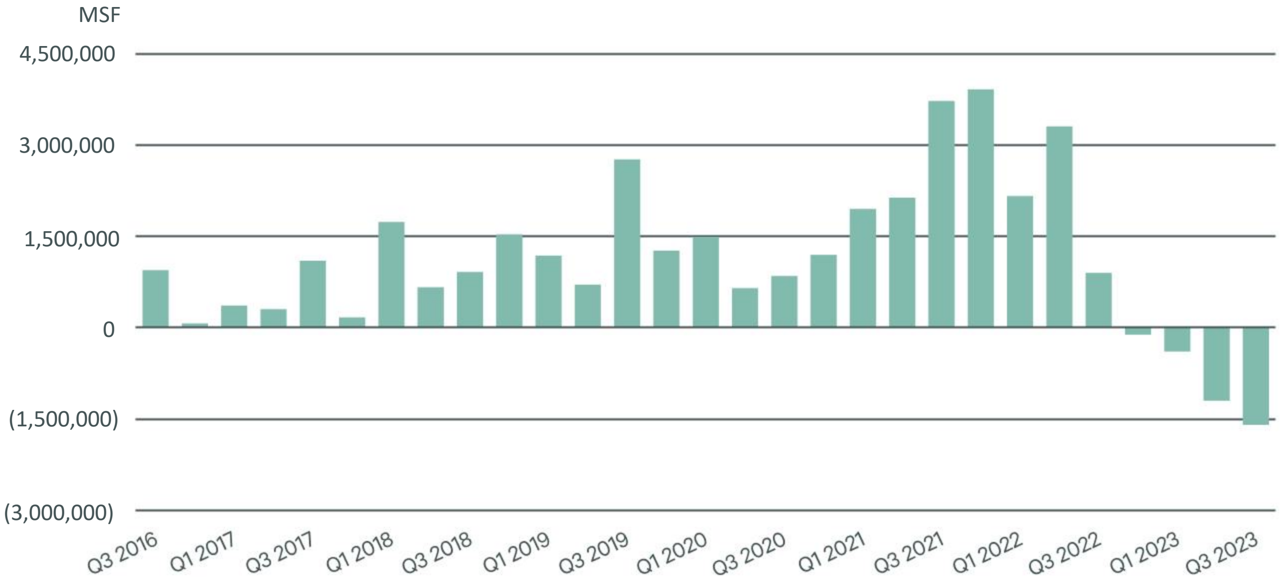
Lab Market

Lab/R&D Space Net Absorption

Sluggish capital markets, high interest rates, slowing economic growth and record-high supply of new lab/R&D space will be challenging for life sciences markets in 2024.

As demand for space returns to pre-pandemic averages, construction deliveries should peak in 2024, which will increase the overall vacancy rate and lower the average rent. The construction pipeline should drop dramatically in 2025, allowing property markets to stabilize amid more leasing activity.

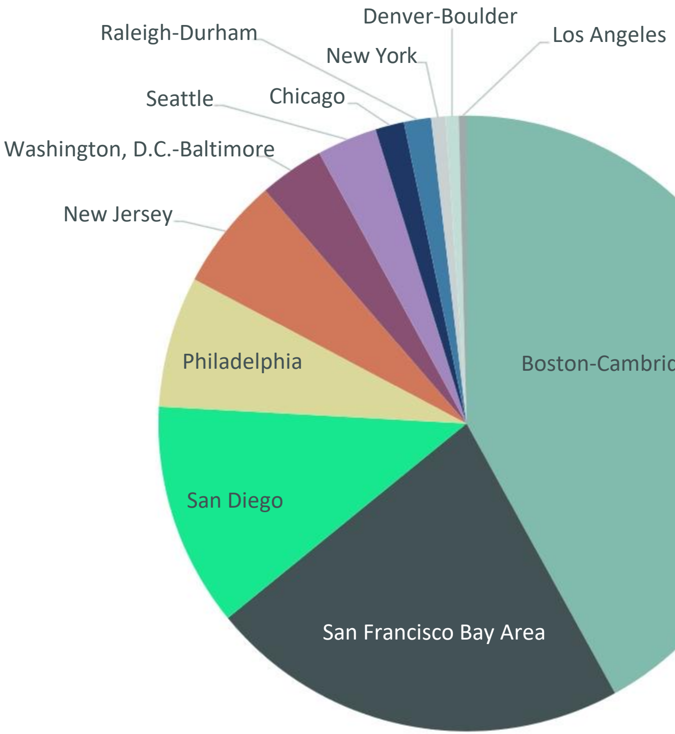
Net absorption of lab/R&D space turned negative in 2023, particularly in the top three life sciences markets of Boston-Cambridge, the San Francisco Bay Area and San Diego. These markets had a much faster inflow of venture capital funding between 2019 and 2021 (+170%) than the 10 other primary markets (+82%), possibly leading to more risk-taking, misallocation of capital and overzealous expansion plans. Significantly higher amounts of new construction also occurred in these markets.



 Source: CBRE Research, Q4 2023.

Lab/R&D Construction (MSF) by Primary Market (Q3, 2023)

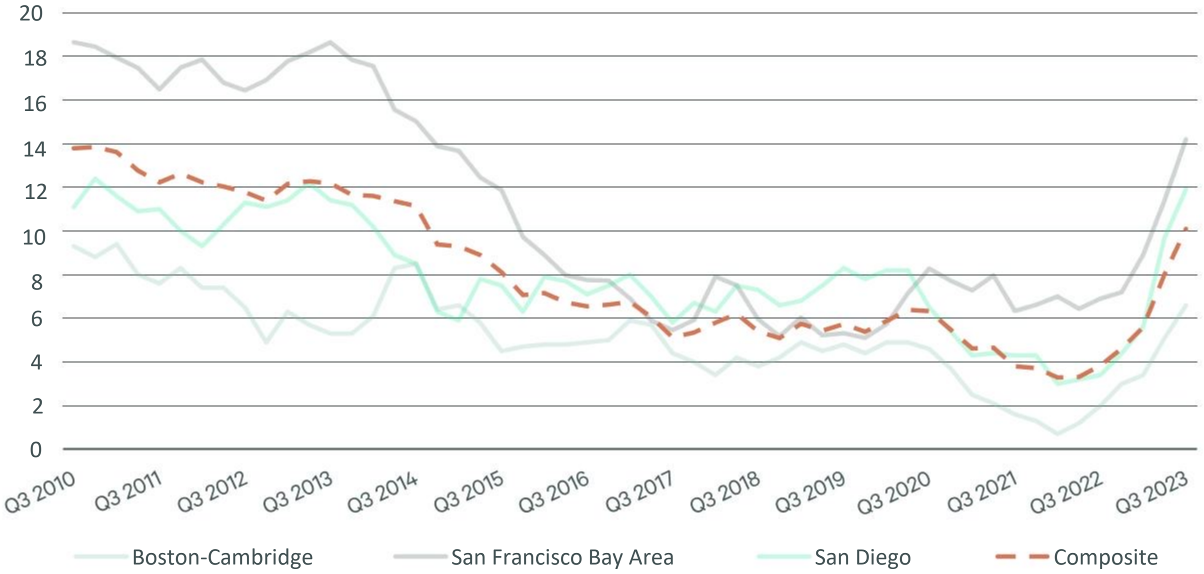
More than 40% (13.4 million sq. ft.) of lab/R&D space scheduled for delivery over the next two years is in the top market of Boston-Cambridge (Figure 22), followed by 7 million sq. ft. in the San Francisco Bay Area and 3.7 million sq. ft. in San Diego for a combined share of 76%.



 Source: CBRE Research, Q4 2023.

Vacancy Rates in Top Three Lab/R&D Markets

The large amount of new space currently under construction has caused vacancy rates to increase sharply in the top three life sciences markets (Figure 23). The overall vacancy rate for these top three markets increased to 10.1% in Q3 2023 from 3.3% in Q1 2022 and should head higher in 2024



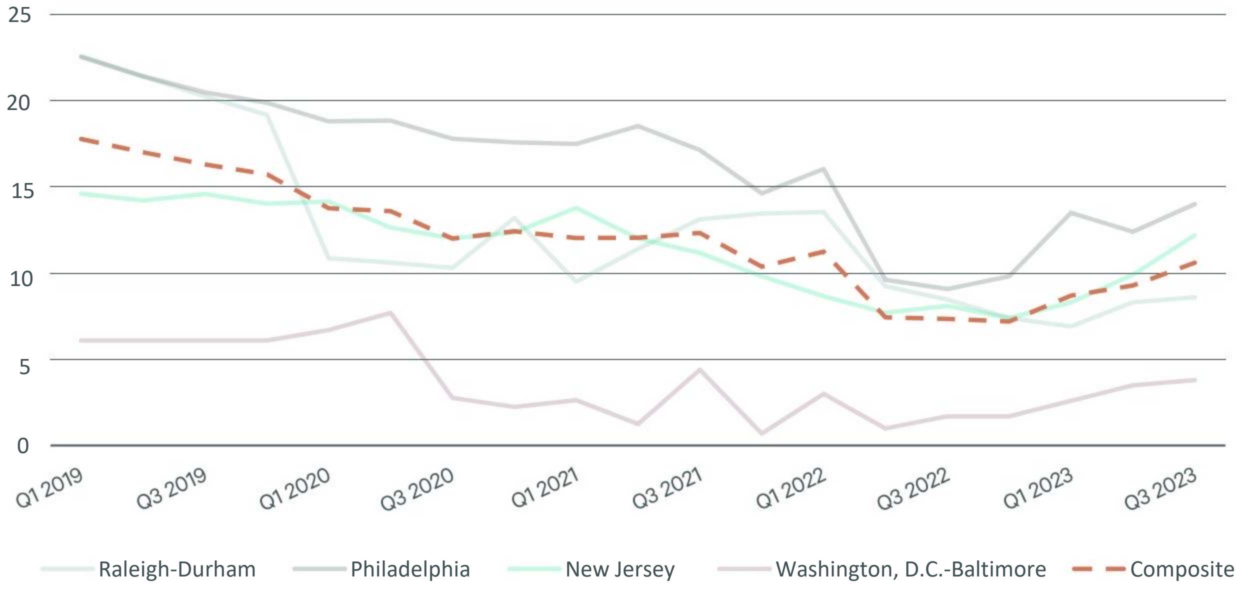
 Source: CBRE Research, Q4 2023.

Vacancy Rates in Select Other Primary Lab/R&D Markets

More moderate increases in vacancy have occurred in certain other primary markets.

A composite vacancy rate for Washington, D.C.-Baltimore, Raleigh-Durham, Philadelphia and New Jersey increased to 10.6% in Q3 2023 from a low of 7.2% in Q4 2022 (Figure 24).

Although primary markets have a smaller pipeline of new supply, their vacancy rates likely will increase in 2024 due to high interest rates, an economic slowdown and sluggish capital markets.

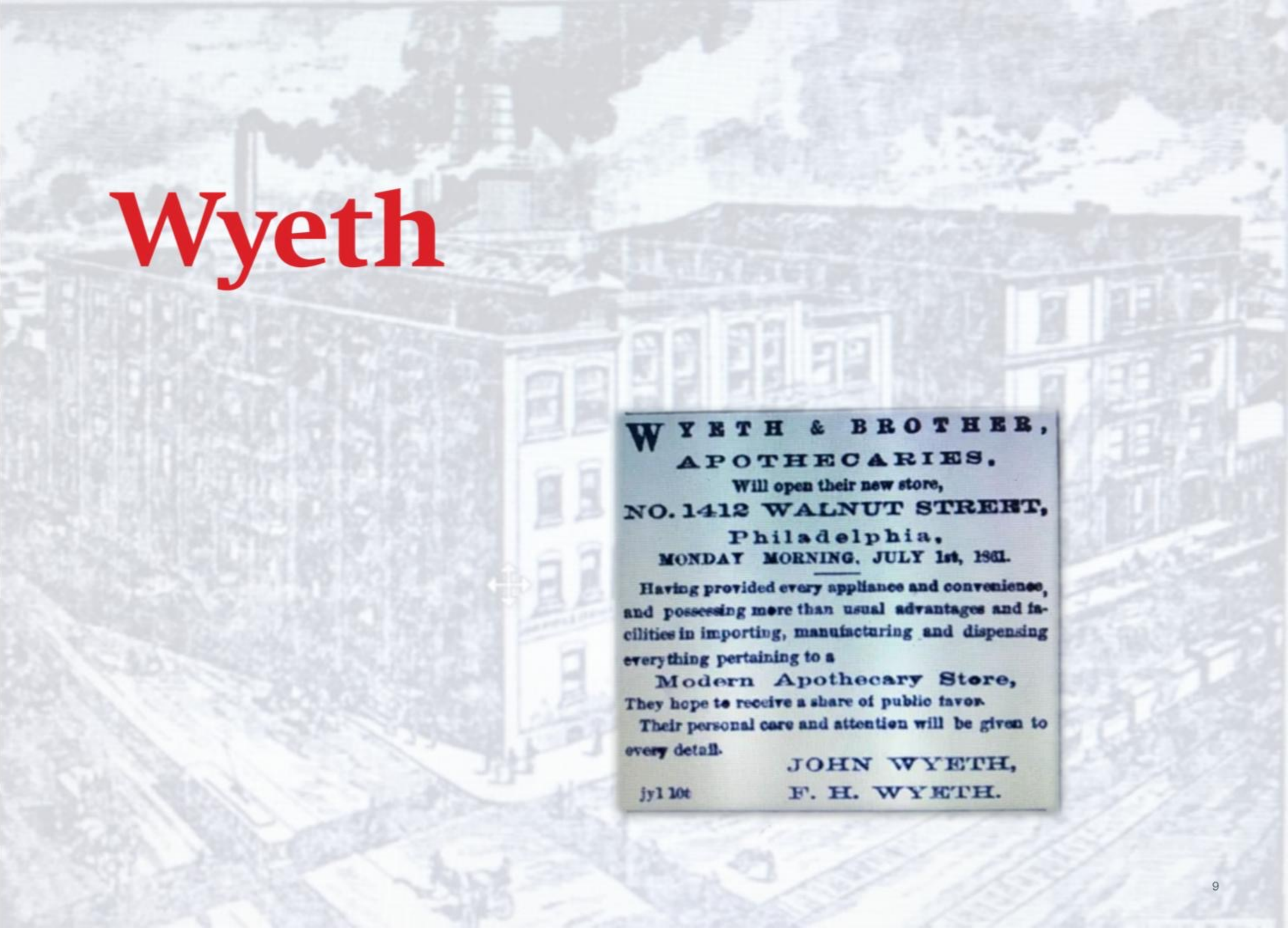


 Source: CBRE Research, Q4 2023.

02

Regional Outlook

Reminder!



Wyeth

WYETH & BROTHER,
APOTHECARIES,
Will open their new store,
NO. 1412 WALNUT STREET,
Philadelphia,
MONDAY MORNING, JULY 1st, 1861.

Having provided every appliance and convenience, and possessing more than usual advantages and facilities in importing, manufacturing and dispensing everything pertaining to a

Modern Apothecary Store,

They hope to receive a share of public favor.

Their personal care and attention will be given to every detail.

JOHN WYETH,
F. H. WYETH.

jy1 10t

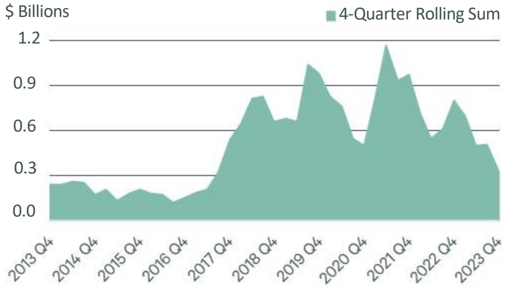
Market Overviews

Philadelphia

FY 2024 NIH Funding: $57.9M

Source: National Institutes of Health

VC Funding



Source: CB Insights

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate	Q4 2023 Absorption
Exton/ West Chester	649,091	$34.06	24.7%	63,500
Center City	509,000	$59.76	27.6%	8,500
University City	2,401,719	$61.99	14.2%	27,330
Malvern	1,110,103	$34.22	5.3%	(1,488)
King of Prussia/ Valley Forge	2,835,044	$41.18	8.2%	(10,324)
Navy Yard	952,238	$50.47	13.7%	-
Horsham/ Spring House	1,022,665	$39.92	22.7%	5,000
New Castle County	322,743	$36.00	0.0%	-
Greater Northeast	771,828	$36.00	30.2%	-
Lower Bucks County	510,132	$25.00	2.9%	-
METRO (TOTAL)	11,084,563	$50.34	13.9%	92,518

Q3 Lab/R&D Deliveries

Development	Submarket	Size (SF)	Developer	BTS or Spec	% Pre-leased
240 Sierra Dr	Exton/West Chester	113,000	The Hankin Group	Spec	100%
Cira Centre	University City	27,330	Brandywine Realty Trust	Spec	100%

Top Lab/R&D Sale Transactions

Buyer	Size (SF)	Submarket	Price	$/SF
Protecs	35,155	Lower Bucks County	$7.1M	$201

Top Lab/R&D Lease Transactions

Tenant	Size (SF)	Submarket	Type
Code Biotherapeutics	25,600	Horsham/Spring House	New
Tela Bio	20,100	Malvern	New
Tela Bio	15,900	Malvern	Expansion

Demand

	Q4 2023
# of TIMs	30
SF of Demand	1.3M

Class A+

	Urban	Suburban
Inventory	2,790,000	1,470,000
Asking Rate (NNN)	$60-65	$40-45

Future Supply Lab/R&D

Under Construction	# of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2024 (SF)	% Pre-leased
New	4	1,285,796	1,285,796	559,985	20.4%
Conversion	6	554,132	554,132	519,449	43.5%
TOTAL	10	1,839,928	1,839,928	1,079,434	27.4%

Key Trends/Big News

- While leasing activity cooled during 2023 as cost of capital remained high and overall VC funding shrank, an uptick at the end of the year in tenant requirements point toward increased demand in 2024.
- Given the region's approximately 1.8 million sq. ft. of R&D space under construction, Philadelphia is positioned to see future leasing activity given its depth in the cell and gene therapy arena. In fact, current development in the pipeline is nearly 30% pre-leased, pointing toward persistent demand in the market.
- Landlords continue to invest in constructing pre-built spec lab suites, as the strategy proves successful in capturing demand that typically requires immediate occupancy and flexible lease terms.

Philadelphia

WAGES	
	Average Wage
Biochemists	$119,102
Biomedical Engineers	$102,716
Biophysicists	$118,834
Chemists	$93,263

Source: CBRE Labor Analytics, CBRE Research.

POPULATION & LABOR FORCE	
Labor Force (2022)	3,209,354
% of Laborers in Professional, Scientific & Tech Services	10.0%
% of Laborers in Health care Services	17.7%
5-Year Projected Population Growth	1.7%

Source: CBRE Labor Analytics, CBRE Research.

COST OF LIVING	
Costs of Living (2021)	
Yearly Cost of Living	$56,355
Median Household Income Value	$74,817
Median Home Value	$280,529
Average Apartment Rent/1BR/MO	$1,479

Source: CBRE Labor Analytics, CBRE EA Q4 2022

TOP LIFE SCIENCES COLLEGES & UNIVERSITIES				
School	Bachelors	Masters	Doctorate	Total
University of Pennsylvania	337	146	44	991
Temple University	452	67	123	975
University of Delaware	383	108	105	708
Drexel University	219	261	1	58
Rowan University	394	8	-	48

Source: IPEDS, CBRE Research

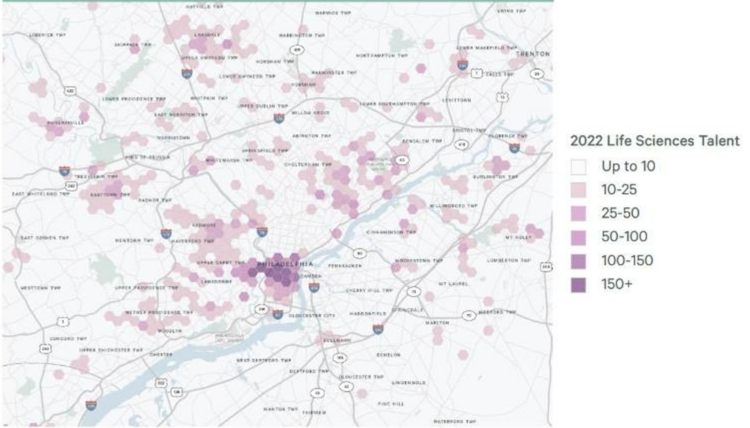
EMPLOYMENT	
	Employed (2022)
Total Life Sciences Occupations	19,520
Biochemists and biophysicists	2,440
Biological scientists, all other	1,170
Medical scientists, except epidemiologists	4,410
Bioengineers and Biomedical Engineers	220
Chemists	4,130
Microbiologists	520
Biological technicians	4,250
Epidemiologists	70
Life scientists, all other	-
Data Scientists & Math Science	2,310

Source: CBRE Labor Analytics, CBRE Research.

TALENT PIPELINE		
Degree Completions (2021)	Total Degrees	% of Top 25 Markets
Biological and Biomedical Sciences	3,951	5.9%
Total Bachelor, Masters, Doctorate degrees (all subjects)	67,182	
Degree Completions in the Biological and Biomedical Sciences	Total Degrees	% of Total Degrees
Bachelor's Degree	2,947	75%
Master's Degree	736	19%
Doctorate	268	7%

Source: CBRE Labor Analytics, CBRE Research.

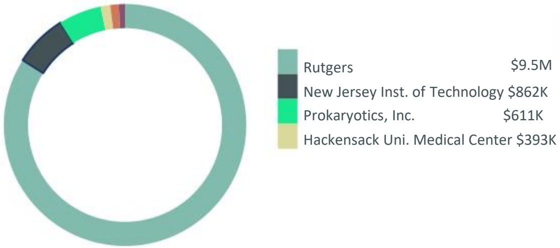
LIFE SCIENCES RESEARCH TALENT: WHERE DOES TALENT LIVE?



Source: CBRE Location Intelligence.

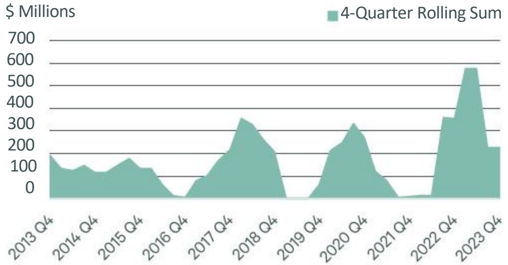
New Jersey

FY 2024 NIH Funding: $11.3M



Source: National Institutes of Health. Funding is only for cities in New Jersey of the New York-Newark-Jersey City MSA

VC Funding



Source: CB Insights. Funding is only for cities in New Jersey of the New York-Newark-Jersey City MSA

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate	Q4 2023 Absorption
METRO (TOTAL)	17,519,200	$36.00	13.1%	(103,925)

Top Lab/R&D Lease Transactions

Tenant	Size (SF)	Submarket	Type
Nokia Bell Labs	360,000	New Brunswick	Pre-Lease
ROCHE Molecular Systems	82,000	Western Rt. 78	Renewal
AECOM	12,100	Piscataway	Renewal

Future Supply Lab/R&D

Under Construction	# of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2024 (SF)	% Pre-leased
New	3	952,626	378,626	98,000	70.5%
Conversion	3	582,057	-	378,000	72.2%
TOTAL	6	1,534,683	378,626	476,000	71.2%

Demand

	Q4 2023
# of TIMs	9
SF of Demand	710,000

Class A+

	Suburban
Inventory	400,000
Asking Rate (NNN)	$36

Big News

- The HELIX NJ is approaching the second phase of build-to-suit lab and office space. This phase leased to Nokia Bell Labs who will be relocating from Murray Hill. The Helix phase one building is still under construction and will be occupied by the NJ Innovation Hub, the Rutgers Robert Wood Johnson Medical School, and a Rutgers translational research facility. The project represents the largest investment in life sciences and medical education in New Jersey's history.

New York/ New Jersey

WAGES

	Average Wage
Biochemists	$128,274
Biomedical Engineers	$107,532
Biophysicists	$127,978
Chemists	$98,669

Source: CBRE Labor Analytics, CBRE Research.

POPULATION & LABOR FORCE

Labor Force (2022)	10,040,665
% of Laborers in Professional, Scientific & Tech Services	10.9%
% of Laborers in Health care Services	16.8%
5-Year Projected Population Growth	1.2%

Source: CBRE Labor Analytics, CBRE Research.

COST OF LIVING

Costs of Living (2021)	
Yearly Cost of Living	$69,246
Median Household Income Value	$83,225
Median Home Value	$517,738
Average Apartment Rent/1BR/MO	
New York	$2,857
Newark	$1,732

Source: CBRE Labor Analytics, CBRE EA Q4 2022

TOP LIFE SCIENCES COLLEGES & UNIVERSITIES

School	Bachelors	Masters	Doctorate	Total
Rutgers University	1,121	351	63	1,535
Stony Brook University	723	103	41	867
New York University	242	484	74	800
Columbia University in the City of New York	186	479	109	774
CUNY City College	315	41	2	358

Source: IPEDS, CBRE Research

EMPLOYMENT

	Employed (2022)
Total Life Sciences Occupations	38,700
Biochemists and biophysicists	3,100
Biological scientists, all other	1,810
Medical scientists, except epidemiologists	9,240
Bioengineers and Biomedical Engineers	720
Chemists	7,820
Microbiologists	1,560
Biological technicians	3,270
Epidemiologists	210
Life scientists, all other	570
Data Scientists & Math Science	10,400

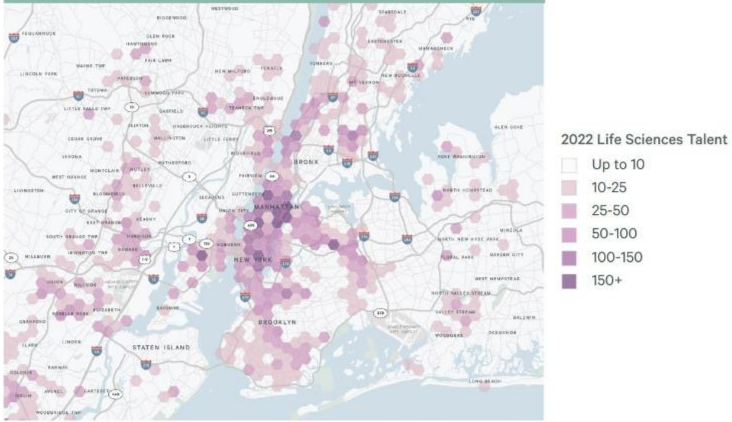
Source: CBRE Labor Analytics, CBRE Research.

TALENT PIPELINE

Degree Completions (2021)	Total Degrees	% of Top 25 Markets
Biological and Biomedical Sciences	9,497	5.0%
Total Bachelor, Masters, Doctorate degrees (all subjects)	191,153	
Degree Completions in the Biological and Biomedical Sciences	**Total Degrees**	**% of Total Degrees**
Bachelor's Degree	6,816	72%
Master's Degree	2,165	23%
Doctorate	516	5%

Source: CBRE Labor Analytics, CBRE Research.

LIFE SCIENCES RESEARCH TALENT: WHERE DOES TALENT LIVE?



Source: CBRE Location Intelligence.

03

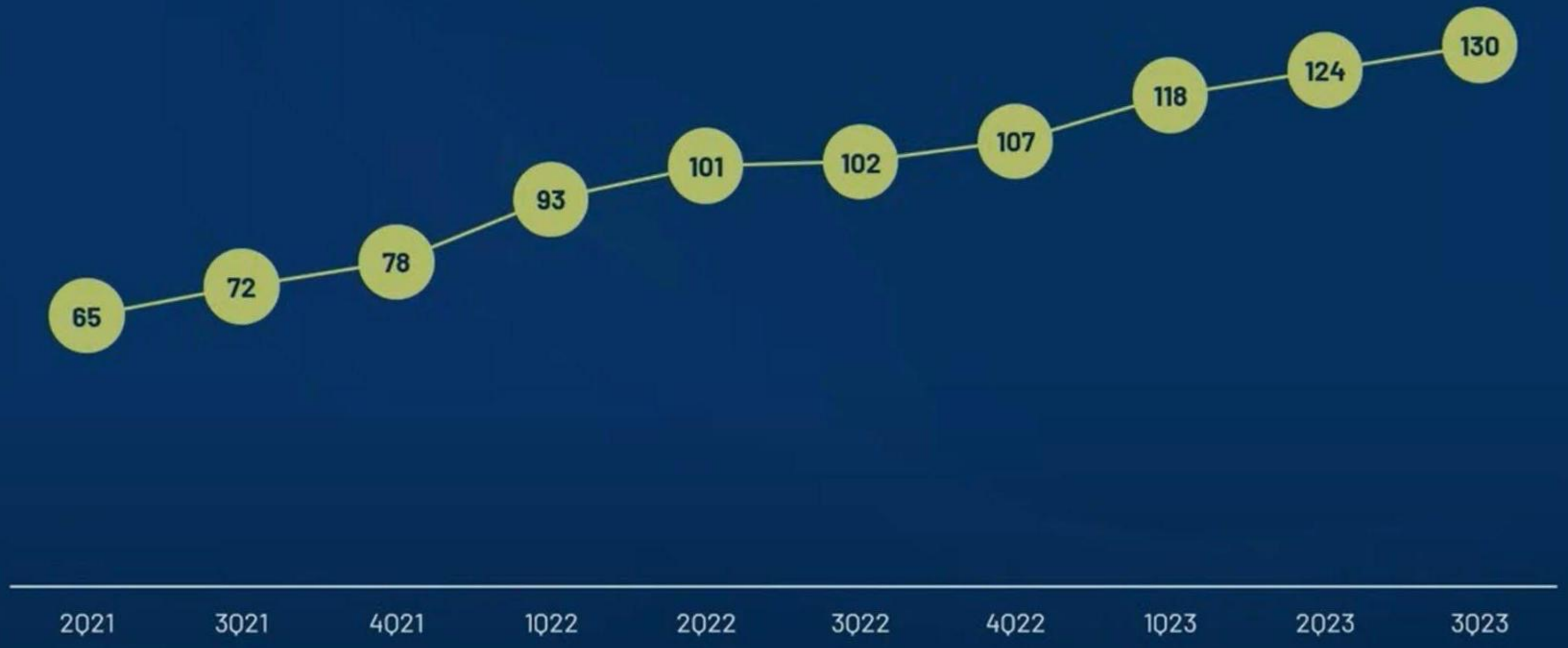
Trends & Market Drivers

Wall Street Impacting Later- Stage Biotech

- All-time high in backlog of IPO ready companies
- Historic level of companies seeking options
- Overall lack of capital available increasing pressure in midst of excellent pace of FDA product approvals

LACK OF IPOs CREATES BACKLOG OF LATER STAGE PRIVATES

BACKLOG OF IPO-ELIGIBLE BIOTECH COMPANIES



Record Number of Biopharma Companies Exploring Strategic Options

By our count, there are 47 biopharma companies that have indicated that they are exploring strategic alternatives or are going through an sale process for assets via a bankruptcy or liquidation. This is an all-time record based on the statistics that we keep.

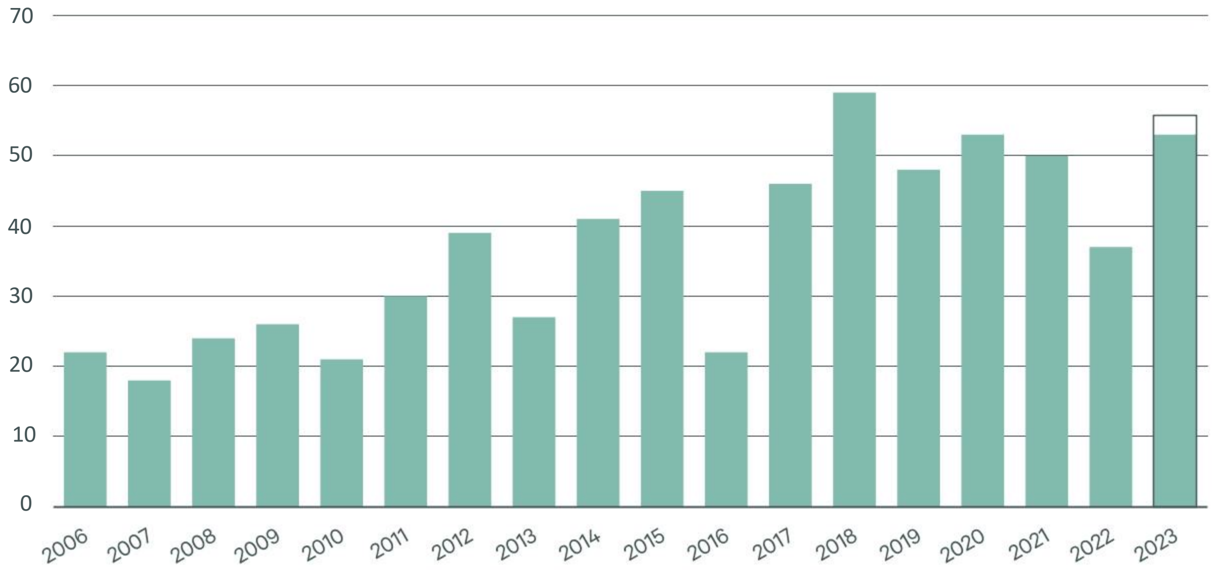
Ticker	Company	Note	Announcement Date	Last Cash ($mm)	Enterprise Value ($mm)
TMBR	Timber Pharma	BK	11/17/2023	$2.5	$2.5
BCEL	Atreca		11/16/2023	$21.4	-$11.5
THRX	Theseus		11/14/2023	$205.1	-$71.0
KTRA	Kintara Therapeutics		10/31/2023	$0.2	$11.0
LIAN	LianBio		10/24/2023	$252.2	$232.9
EVLO	Evelo Biosciences		10/17/2023	$17.3	$26.1
ATHX	Athersys		10/16/2023	$1.0	$18.7
RAIN	Rain Oncology	AC	10/16/2023	$77.3	-$36.9
IMPL	Impel Pharmaceuticals	BK	10/5/2023	$0.2	$122.0
GLTO	Galecto		9/26/2023	$44.2	-$27.1
ARAV	Aravive		8/21/2023	$8.5	$3.4
GRTX	Galera Therapeutics		8/14/2023	$28.4	$130.9
TCRT	Alaunos Therapeutics		8/14/2023	$11.9	$5.4
SLRX	Salarius Pharmaceuticals		8/8/2023	$7.6	-$4.4
NBSE	Neubase		8/3/2023	$13.8	-$4.8
AVTX	Avalo Therapeutics		8/3/2023	$10.2	$9.1
VXL	Vaxil Bio		8/2/2023	$0.7	$0.3
SQZB	SQZ Biotechnologies		7/25/2023	$10.2	$11.9
ELYM	Eliem Therapeutics		7/20/2023	$107.4	-$36.9
RKDA	Arcadia Biosciences		7/20/2023	$15.7	-$11.2
NMTR	9 Meters	BK	7/19/2023	$0.0	$0.0
PIRS	Pieris Pharma		7/18/2023	$44.8	-$10.2
AVRO	AvroBio		7/12/2023	$105.8	-$46.6

Ticker	Company	Note	Announcement Date	Last Cash	Enterprise Value
HSTO	Histogen	LQ	7/5/2023	$4.6	-$4.2
RVLP.Q	RVL Pharmaceuticals		7/5/2023	$19.2	$39.5
SPEX	Spexis		6/30/2023	$1.0	$9.9
AUPH	Aurinia Pharma	AC	6/29/2023	$337.1	$991.2
BLPH	Bellorophon tX		6/24/2023	$4.4	-$4.0
ONSC	Oncosec	BK	6/14/2023	$0.3	$0.0
ONCR	Oncorus		6/1/2023	$45.0	$24.8
NOVN	Novan	BK	5/31/2023	$12.5	$24.2
GMDA	Gamida Cell		5/15/2023	$60.4	$65.5
IMVI.Q	IMV	BK	5/1/2023	$21.2	$7.7
INFI	Infinity Pharma	BK	3/28/2023	$0.4	$0.7
BLCM	Bellicum Therapeutics		3/14/2023	$5.9	$27.3
FRTX	Fresh Tracks Thx		3/7/2023	$12.0	-$7.1
EVFM	Evofem Biosciences		2/23/2023	$7.7	$81.0
GTTX	Genetether		2/8/2023	$2.0	$1.0
AXLA	Axcella Therapeutics		12/14/2022	$8.9	$8.5
MEIP	MEI Pharma	AC	12/6/2022	$82.2	-$29.7
SNGX	Soligenix		11/10/2022	$17.0	$4.0
HGEN	Humanigen		10/31/2022	$3.1	-$3.0
XCUR	Exicure		9/26/2022	$15.6	-$3.0
TENX	Tenax Therapeutics		9/14/2022	$11.1	-$1.9
GLMD	Galmed		6/15/2022	$22.4	-$12.0
ABIO	Arca Bio	AC	4/18/2022	$43.9	-$12.0
ADMA	ADMA Biologics		10/21/2021	$74.2	$975.9

Source: Stifel Research. Note: BK means in bankruptcy, AC means activist present and LQ means in liquidation.

FDA Novel Drug Approvals

2023 is on track to be one of the top three years for novel drug approvals by the U.S. Food & Drug Administration (FDA). While the uptick likely reflects some of the backlog the FDA has been clearing since the pandemic, it also underscores a high degree of industry innovation.



 Source: CBRE Research, Q4 2023.

Signs Point Up

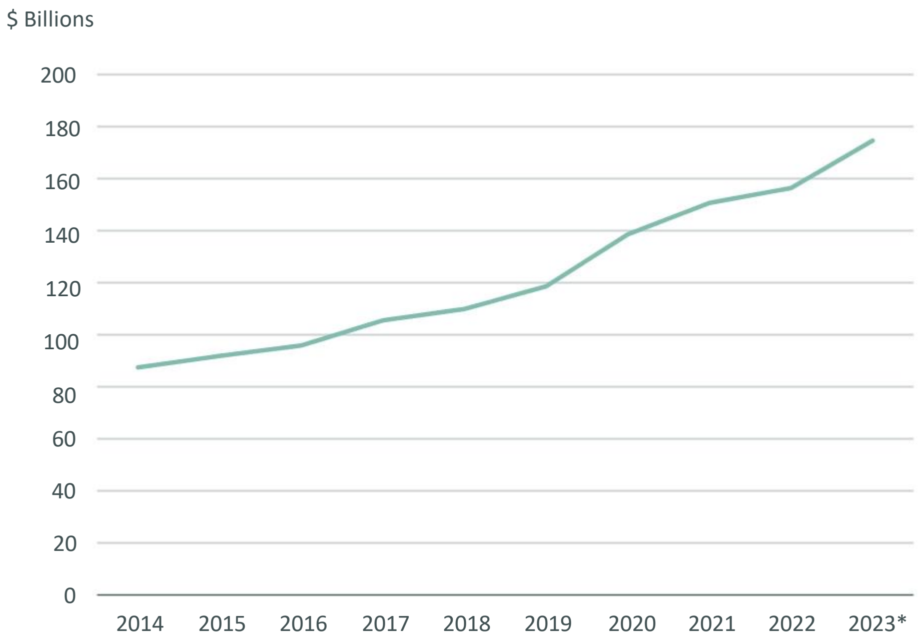
- Top tier R&D investment sustained upward
- Continuing record of new fund formation
- Early-stage investment surge
- Broker street-level view of modest increase in requirements at smaller
  end of lab space, e.g. for Series A stage companies

Public Life Sciences Company R&D Expenditures

Despite a decline in venture capital funding and IPO activity, the amount of R&D spending by public companies continues to rise (Figure 3).

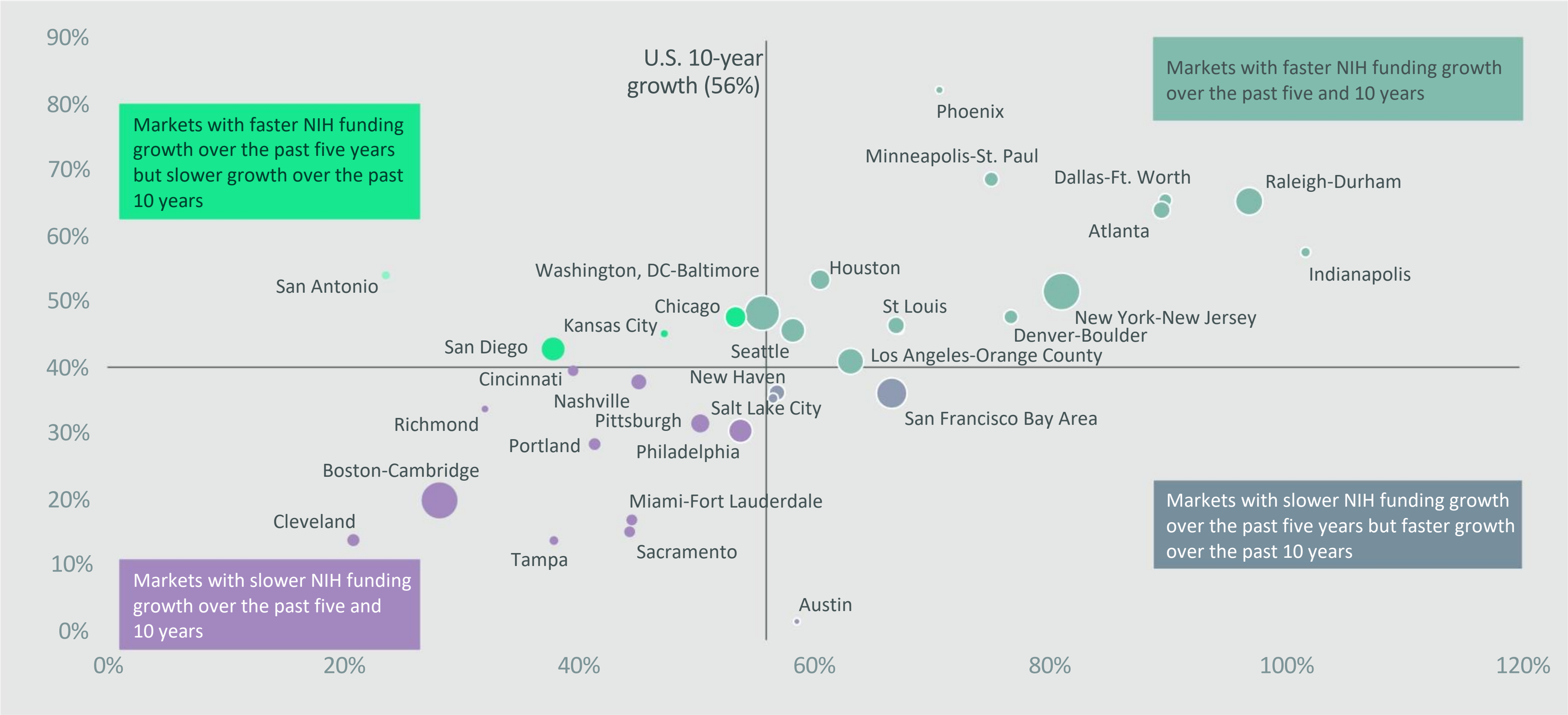
Even in the peak year of 2021 for venture capital funding, public life sciences company R&D expenditures of $151 billion were roughly triple the amount of venture capital and IPOs in the U.S.

In many respects, R&D spending reflects the much more favorable conditions for large-cap life sciences companies in today's business environment that will underpin growth of the industry.



 Source: CBRE Research, Q4 2023.

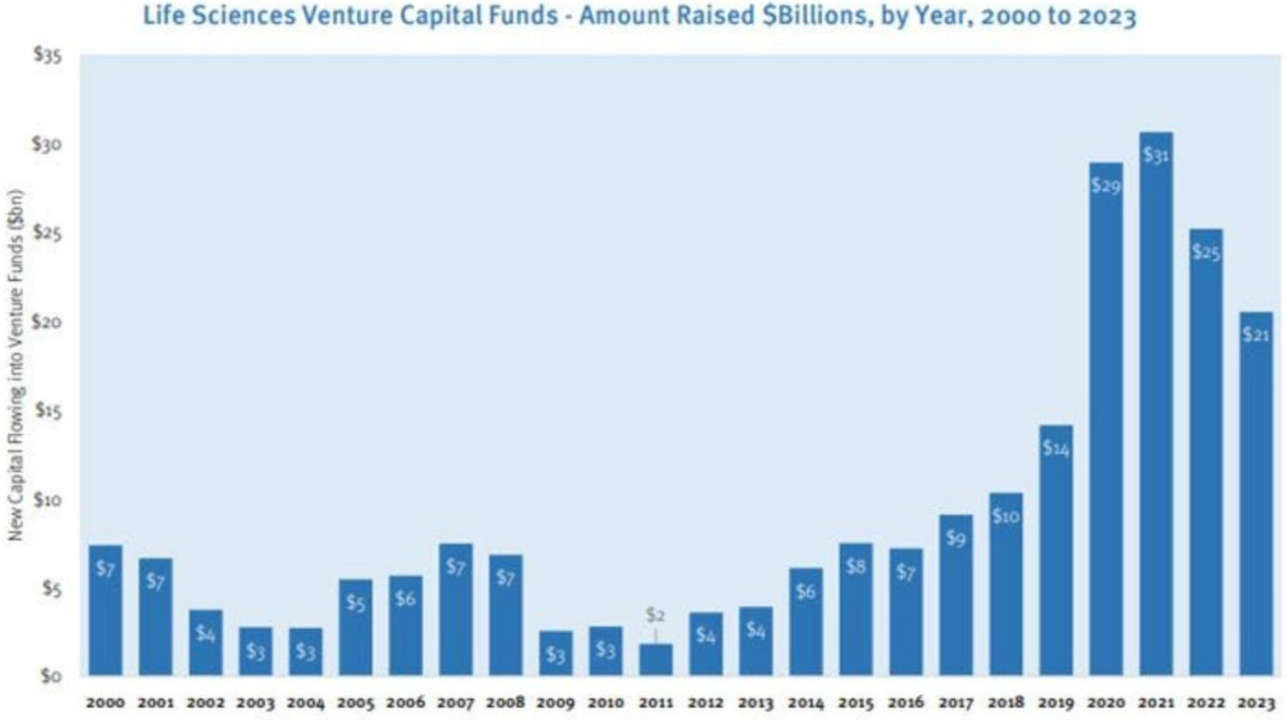
NIH Funding Growth for Major U.S. Markets



Notes: Major markets with more than $100 million in annual NIH Funding in 2022. Size of circle equates to size of 2022 NIH funding.

 Source: National Institutes of Health, CBRE Research, Q4 2023.

New Capital Flows into Life Sciences Venture Funds Down in 2023 But Still Historically Strong



Source: Stifel internal database of fund announcements and Form D's for various funds.

The total volume of new money flowing into life sciences venture funds was $21.5 billion in 2003. This makes 2003 the fourth largest year in venture fundraising for our industry.

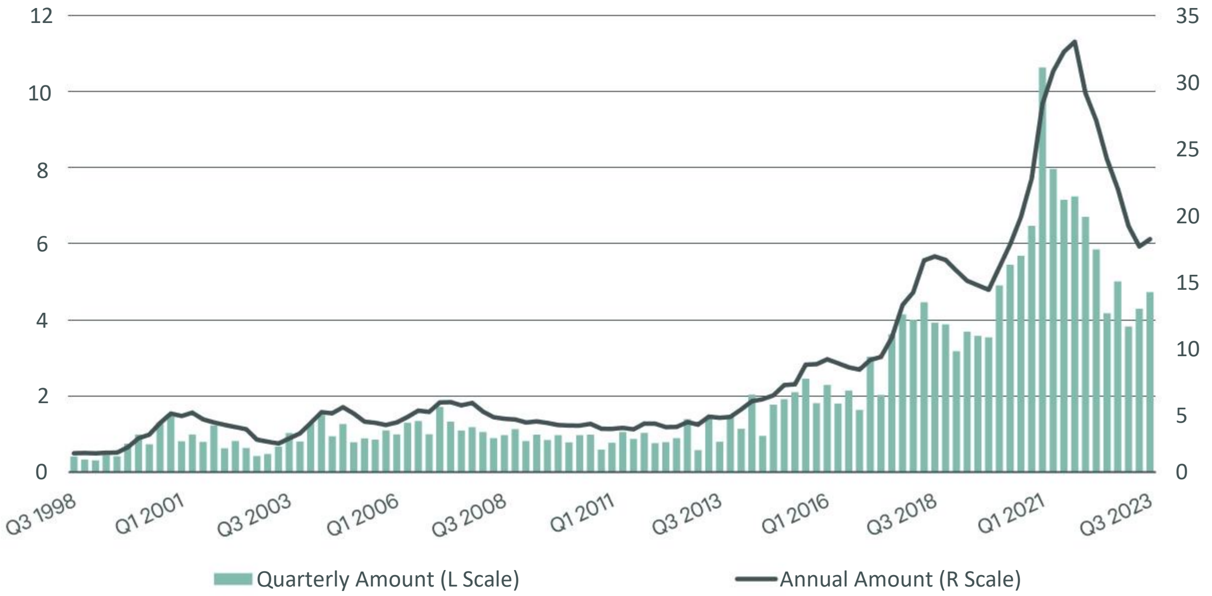
Not bad given how poor market conditions were in 2023.

Overall, venture fund capital raising took a major step up starting in 2020 and has not reverted.

U.S. Life Sciences Venture Capital Funding

With regard to venture capital, annual funding as of Q3 2023 was down by 46.3% from its peak in Q4 2021. Although this pullback has not been as severe as the 52.3% decline between 2001 and 2003, it still has constrained the growth of many companies that rely on such financing and in some cases resulted in layoffs, less space usage and even company dissolutions.

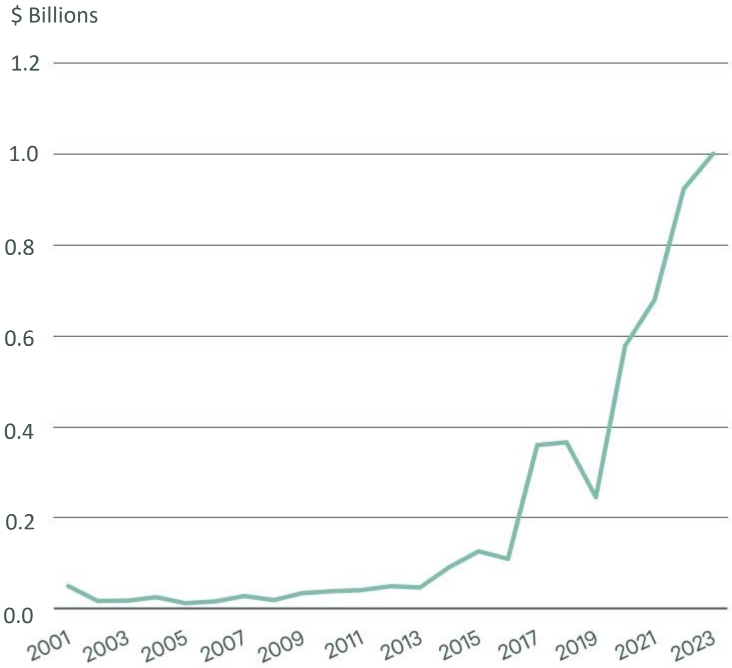
However, annual venture capital funding ending in Q3 2023 increased for the first time since 2021 and was roughly 17% higher than the pre-pandemic average during 2018-2019 (Figure 10).



Angel, Pre-seed, and Seed Venture Funding into U.S. Life Sciences Companies ($, Billions)

Early-stage venture funding has never been higher.

Despite lower levels of funding and increased scrutiny of new investments, there remains an ongoing surge in the earliest venture capital investment rounds (angel, seed, pre-seed). Annual funding for these early rounds has surged by more than 300%since 2019 and although accounting for only 8.6%of all annual venture capital funding ending Q3 2023 underscores the importance that investors are placing on cutting-edge innovations.



Amount of dry powder in U.S. life sciences venture capital

$10.3 B

 Source: CBInsights, CBRE Research, Q4 2023. 2023 figure annualized from 12/11/2023.

Thank you

CBRE

Gracias धन्यवाद Salamat Asante धन्यवाद Obrigado Tack 謝謝 O Se Спасибо 감사합니다

Bedankt Grazi ਧਨਵਾਦ Merci תודה شكريه Teşekkürler Danke ありがとう Dziękuję Terima Kasih شكرا

KEYNOTE SPEAKER

TRACY BRALA

University City Science Center, Senior Vice President, Strategy and Partnerships

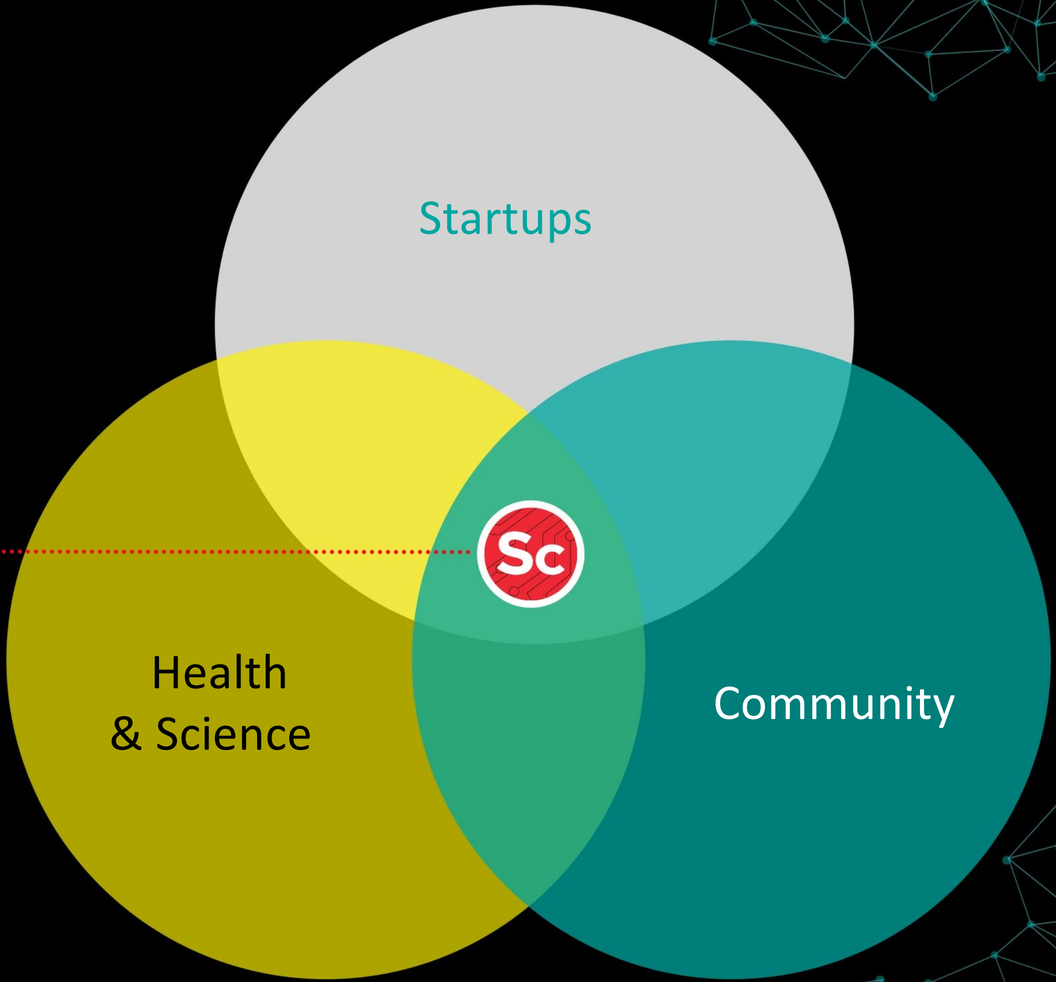
Early-Stage Capital and Regional Outlook

University City Science Center

science center

science center

we fill gaps to drive inclusive ecosystem growth



Framing the Market

Greater Philadelphia has many assets

- #8 Life Science Ecosystem in the World
- 1200 Companies
- 70,000 people
- 1 out of every 4 medical students get their star
- Need for talent remains

2023 Highlights

Across US, challenging year for startups

- 37% decline in investments ($171B)

Greater Philadelphia Region

- Like the broader market VC deal activity slowed
  53% decline ($2.4B)
- Early-stage companies faired better
  22% decline ($419M)
- Life Sciences faired better
  Biotech and Pharma - 8.5% decline ($845M)
  Healthcare – 33% decline ($37.4M)

Revitalized 2024 Market

Cautious Optimism

Resurgence in IPOs

Fundraising to gain momentum

- Market performance
- Founders to LPs

Pragmatic Investors

- Insider-led funding rounds
- Realistic valuations

VC Activity

- Rates lowering
- Non-traditional

Startup Insights

- Stay Agile
- Build Investor Network Early
- Build Sustained Growth
- Leverage Startup Resources
- Stay Informed
- Emphasize Value Proposition
- Scenario Planning
- Maintain Focus on Benefits of DEI

Government Update

Time for Optimism

Federal

- ARPA-H Customer Experience & Investor hubs
- EDA Tech Hub Designation - Precision Medicine

Commonwealth

- Shapiro/Siger – PA Economic Development Strategy
  1st plan in 2 decades

  Life Science – 1 of 5 priority industries
  Innovation to Win - PA Innovation Fund, PA Problem Solvers Startup Comp
- Strong Life Science collaboration

Mayor Parker

- Articulated as part of long-term vision for Economic Growth strategy

THANK YOU

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Q & A