

Life Sciences Caucus Meeting
June 28, 2023
7:30am

Co-chairs:
Senators Newton and Woodard
Representatives White and Reives

Meeting will begin shortly

Agenda

- Welcoming Remarks by Chairs
 - Senators Paul Newton and Mike Woodard
 - Representatives Donna White and Robert Reives
- North Carolina Biotechnology Center
 - Doug Edgeton, President and CEO
- First Flight Venture Center
 - Krista Covey, President
- One NC Small Business Program
 - Mike McBrierty, Director, State and Local Government Affairs, Biogen
 - and Board Member, NC Board of Science, Technology & Innovation
- ~~Overview of successful NC startup~~



Early-Stage Innovation Support

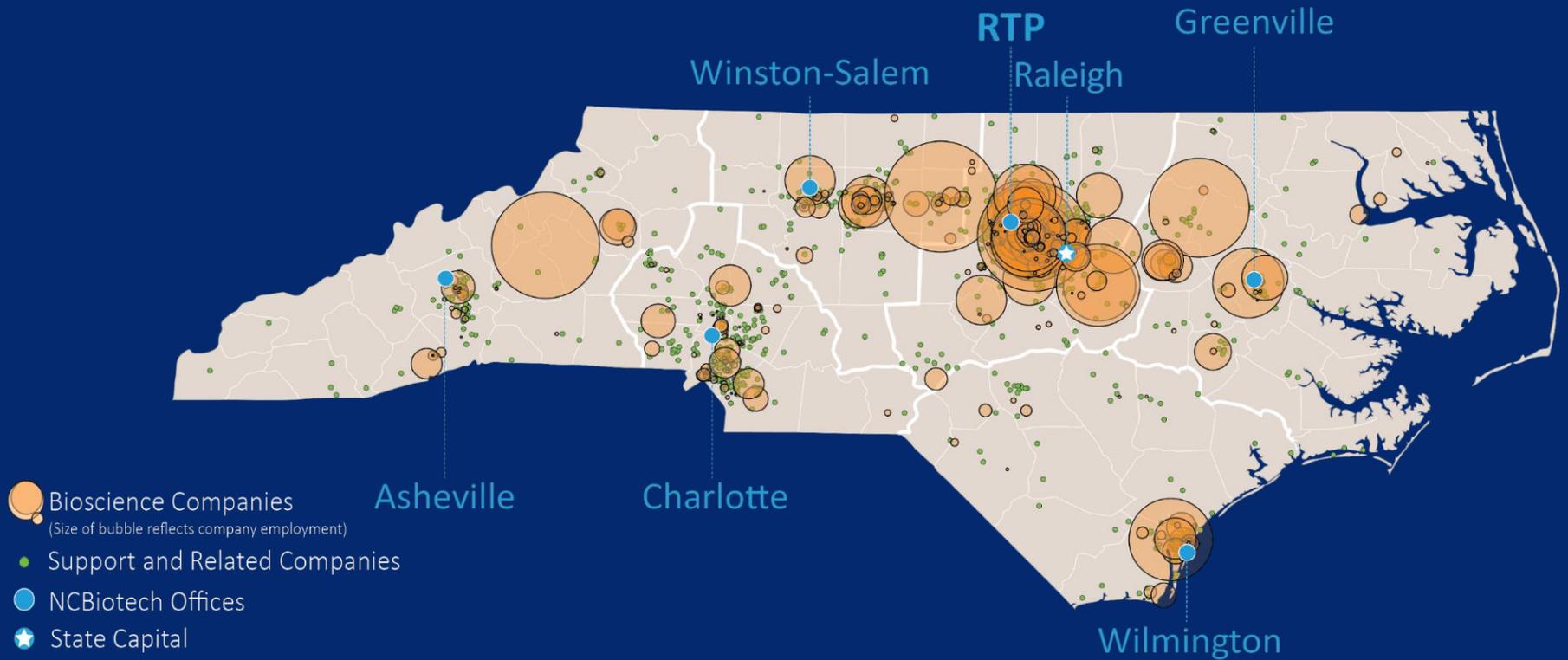


North Carolina Biotechnology Center

Doug Edgeton

June 2023

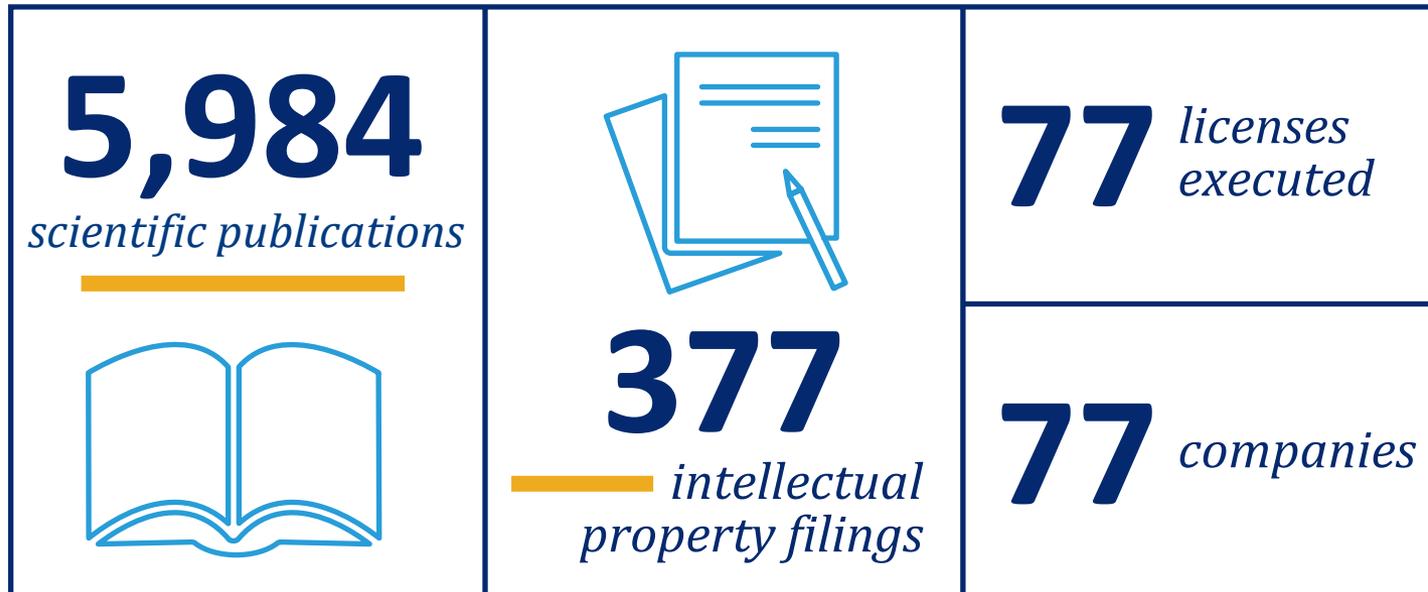
Statewide Life Sciences



Credit: 2022 | NCBiotech Life Science Intelligence

Transforming Innovation Into Impact

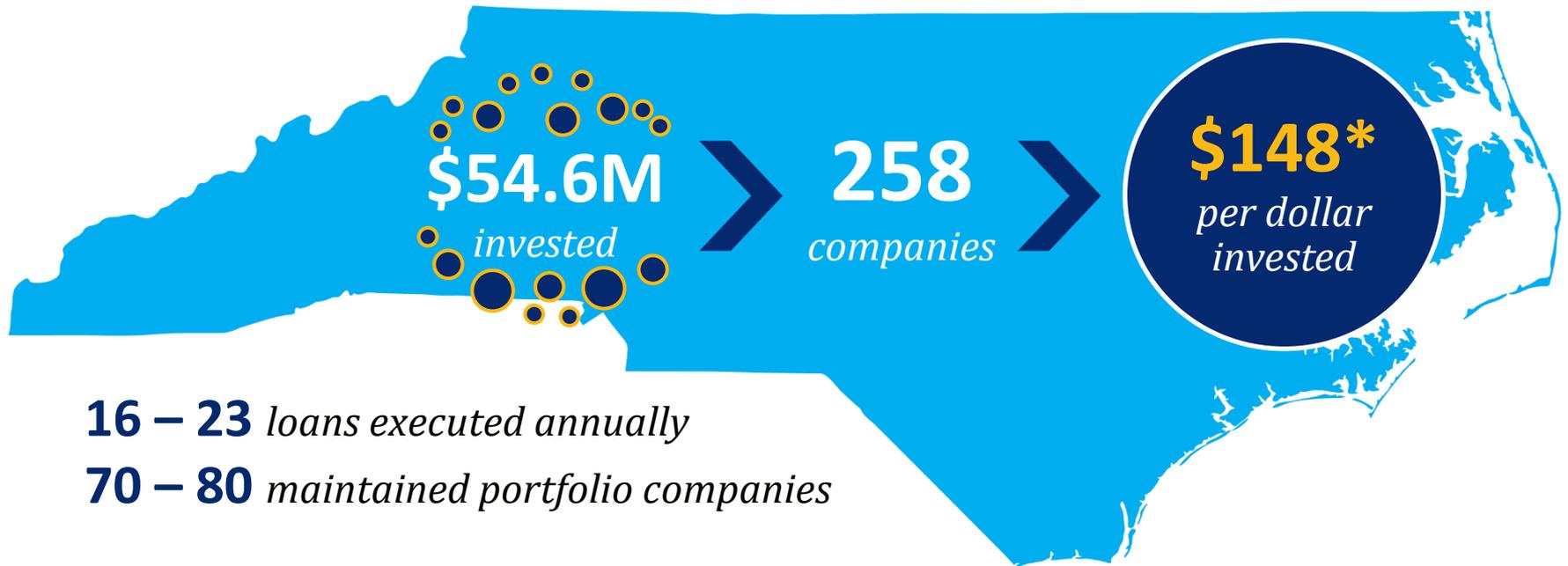
NCBiotech's university grants have led to:



* Historical data current through FY2022

...enabling awardees to secure over **\$4.8B** in follow-on funding.

NCBiotech Loan Program – Summary to Date



16 – 23 *loans executed annually*

70 – 80 *maintained portfolio companies*

\$7.825B

total follow-on funding



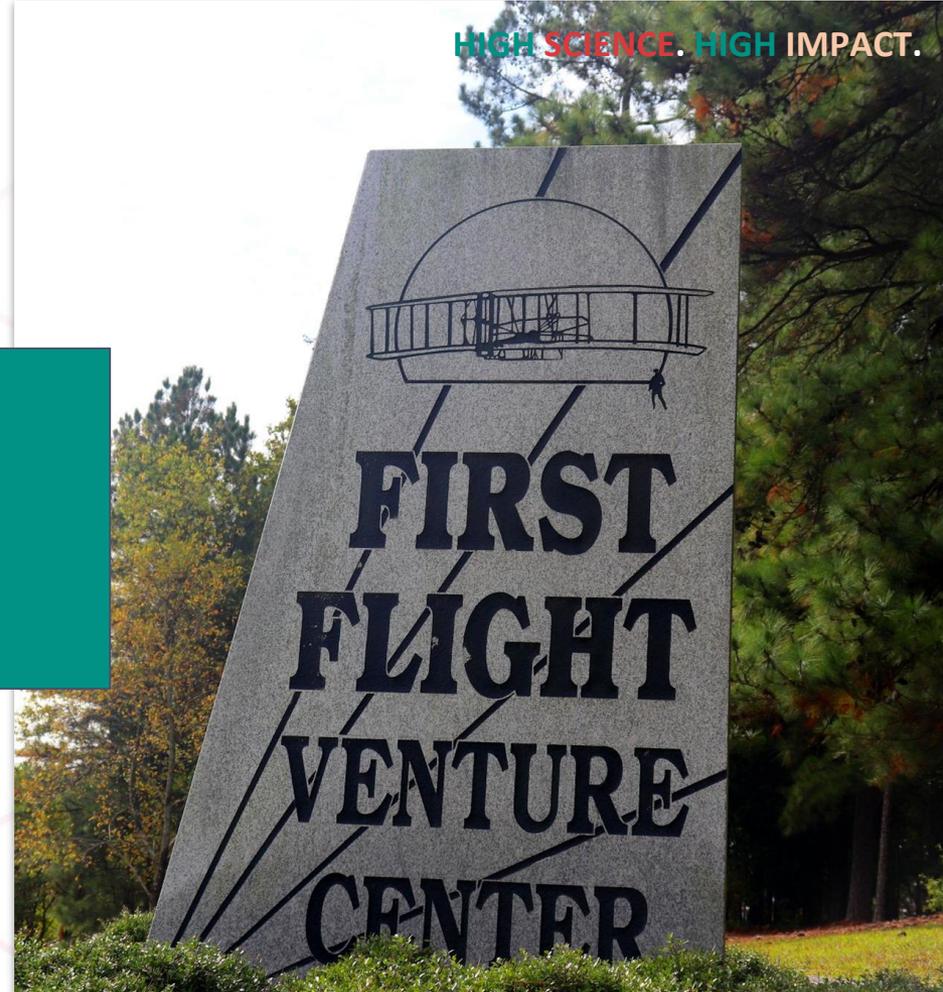
FIRST FLIGHT
VENTURE CENTER

First Flight Venture Center

Our Mission

To propel early-stage science and technology innovators, through the delivery of comprehensive resources and to **empower entrepreneurs to transform good ideas into great successes.**

HIGH SCIENCE. HIGH IMPACT.



www.FFVCNC.ORG



FIRST FLIGHT VENTURE CENTER

- *High Science High Impact* Early-Stage Science Driven Companies Out to Change the World
- Longest standing, Nonprofit science-focused business incubator in Research Triangle Park, NC.
- 32 Labs, 32 Offices
- 30-40 resident companies at any given time, over 800 additional startups served annually
- 3,000+ North Carolina Jobs currently & thousands of Jobs created Worldwide thru Alumni

HIGH SCIENCE. HIGH IMPACT.



North Carolina
Center for Optimizing
Military Performance

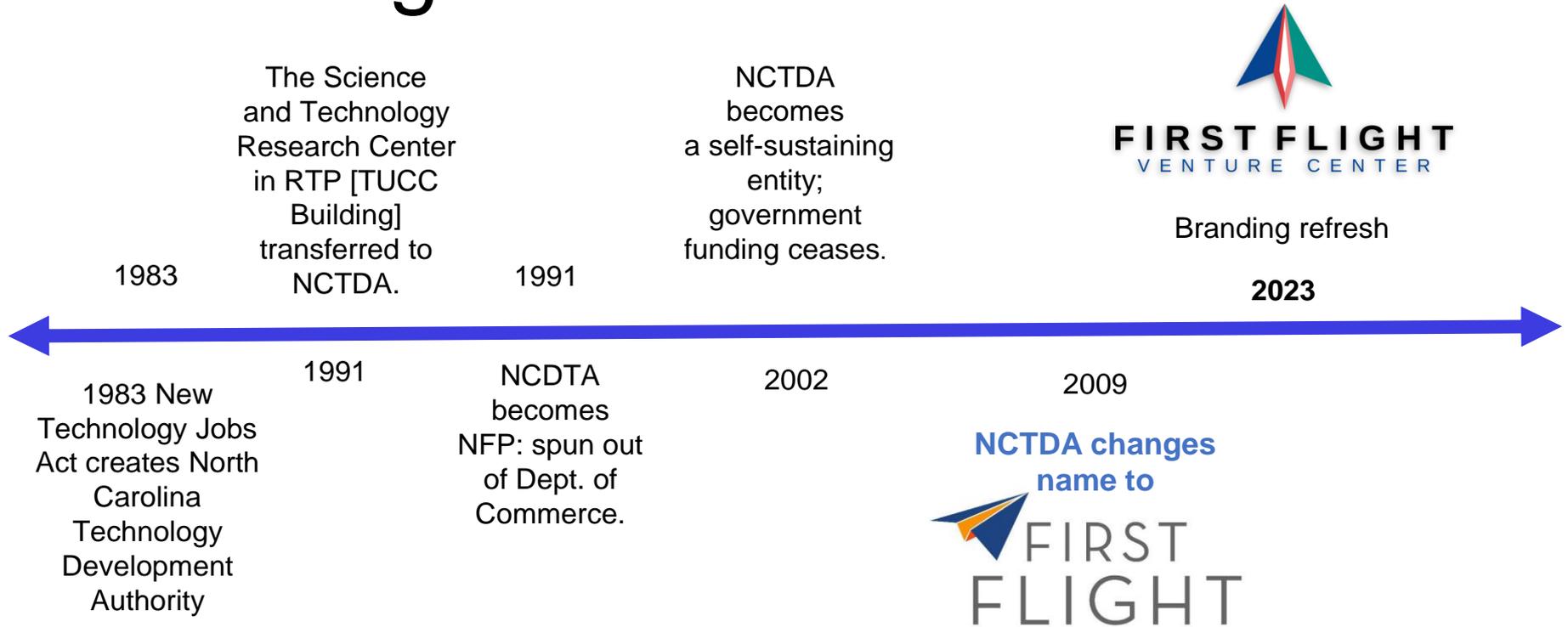


NATIONAL
SECURITY
INNOVATION
NETWORK



AFWERX

First Flight Timeline 1983 - 2009



NCTDA was the HQ and technology hub for 24 NC incubators including Charlotte, Fayetteville, NCSU Centennial Campus and more.

FIRST FLIGHT SUCCESS

\$12B+



400+



Market Cap for
First Flight Resident Grads

Resident Graduate
Companies in
32 Years

\$28.5M

Grants by 2022 Companies
While at First Flight

\$318M

Investment Raised by 2022
Companies While at First Flight

In addition to serving hundreds of
virtual companies every year!



FIRST FLIGHT
VENTURE CENTER

First Flight has been home to
over 400+ clients in our 30 +
years.

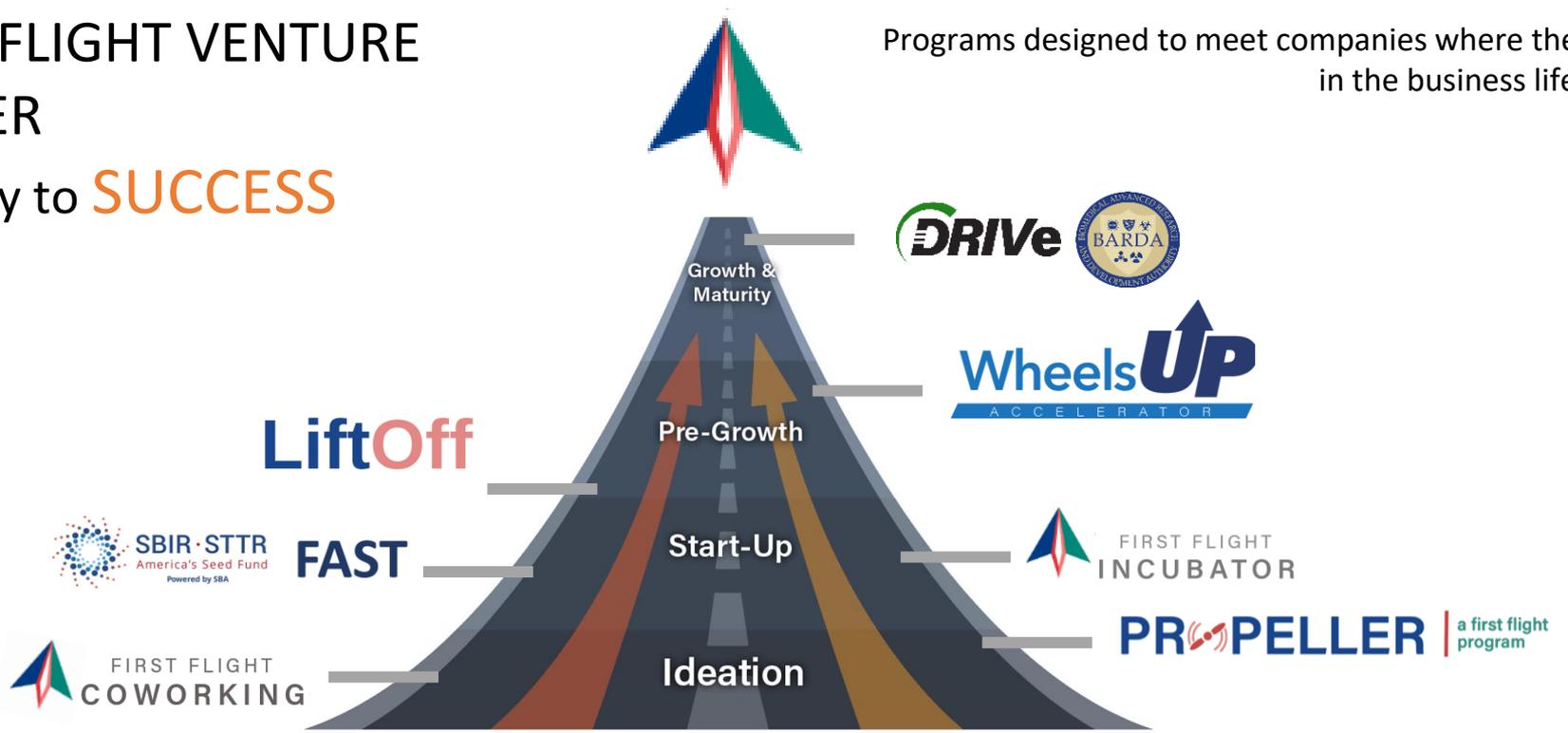
Including:

- United Therapeutics
- Athenix
- SciQuest (Jaggaer)
- Ganymede Software
- Bloodhound Technologies
- Advanced Liquid Logic
- Baebies
- and many others!

FIRST FLIGHT VENTURE CENTER

Runway to **SUCCESS**

Programs designed to meet companies where they are in the business lifecycle



Programs below offered at all stages

1st Tuesday 8:30-9:30 AM

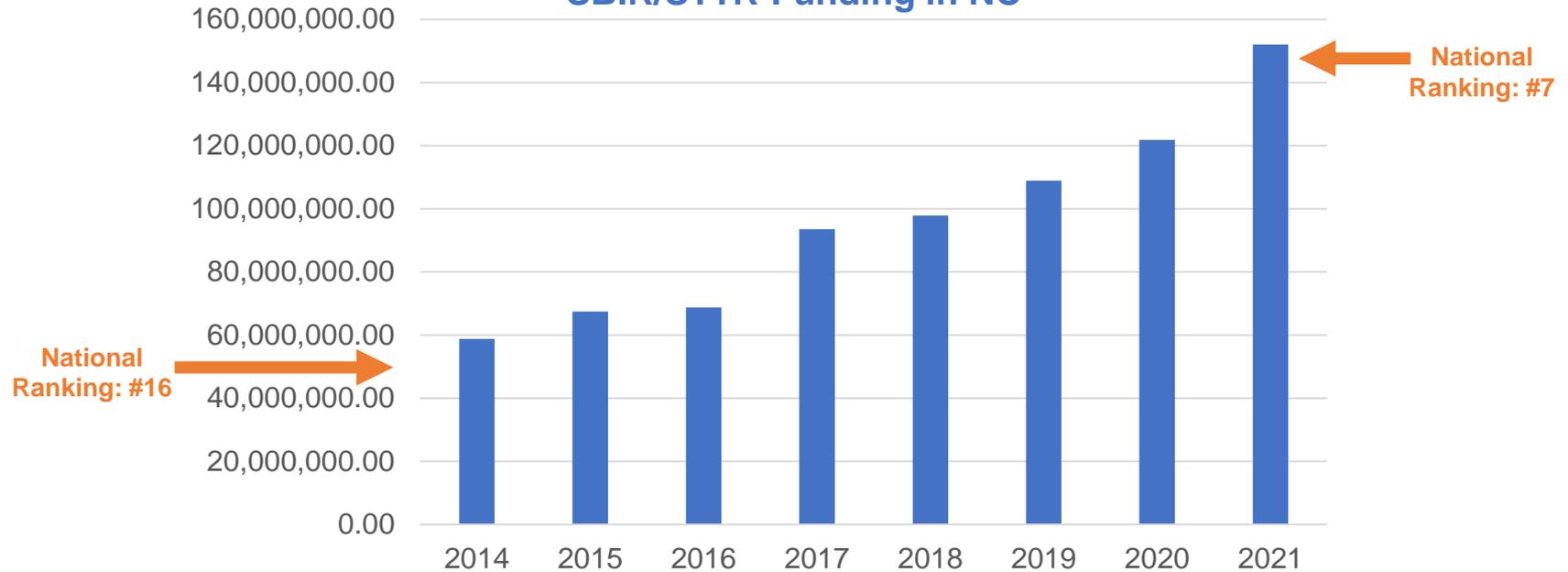
(Science talks)
3rd Tuesday 12-1 PM

(Peer group meetings)
4th Thursday 3-4:30 PM

design. prototype. take flight.



LiftOff Success SBIR/STTR Funding in NC



- **“LiftOff”, First Flight’s subsidized grant writing program, established a national model for leveraging non-dilutive funding to advance scientific development and commercialization.**
- **The \$18.1M+ won by First Flight LiftOff companies has made a significant effect in the overall increase of total SBIR/STTR funding in North Carolina**
- **22% of SBIRs in NC participated in First Flight programming**



FIRST FLIGHT
VENTURE CENTER

Krista Covey,
CEO and President

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kcovey@ffvcnc.org

FFVCNC.ORG





First Flight’s Recent Track Record of Delivery to Socially and Economically Disadvantaged Individuals (SEDI)

First Flight Program	Programs/ Sessions	Total Companies/ Participants	SEDI Companies/ Participants	Program Started	% SEDI Companies
Test Flight Pitch Practice	28	60	34	Aug 2021	56.7%
Itineraries “Science/ Innovation Talks”	30	30	17	Re-launched Sep 2020	56.7%
Propeller Early-Stage Accelerator	7 (6-week cohort)	58	46	Jan 2021	79.3%
WheelsUP Accelerator	1 (12- week cohort)	10	6	Aug 2022	60.0%

HIGH SCIENCE. HIGH IMPACT.



First Flight Impact

First Flight Metric	2022	Through April 2023
Total Programs Offered	25	12
Companies in Programs (not including Incubator)	801	276
Mentor sessions/office hours	507	156
Events showcasing startups	40	24
Startups with underrepresented founders	164	41



www.commerce.nc.gov

LIFE SCIENCE CAUCUS MEETING
WEDNESDAY, JUNE 28, 2023

ONE NORTH CAROLINA SMALL BUSINESS PROGRAM

MIKE MCBRIERTY
DIRECTOR, STATE PUBLIC POLICY & GOVERNMENT AFFAIRS, BIOGEN
MEMBER, NC BOARD OF SCIENCE, TECHNOLOGY & INNOVATION

One NC Small Business Program: What Is It?

State program, authorized in 2005, providing **Incentive grants** to help NC small businesses *apply* for federal Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) Awards and **Matching grants** for SBIR/STTR awards *received* by NC small businesses



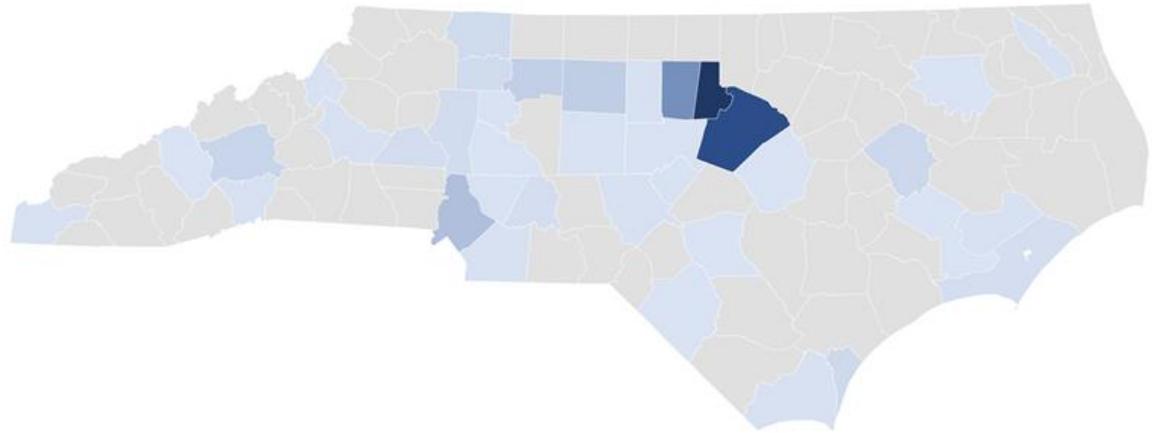
one north carolina
Small Business Program

- **The Federal SBIR/STTR programs (*America's Seed Fund*TM):**
 - **Single largest U.S. source of early-stage funding of small business R&D in the US**
 - **\$43 Billion** awarded since 1983 via 160K awards, yielding more than **\$41 Billion in VC** investments alone; \$10+ Billion awarded over the past 5 years
 - **Broad & diverse range of funded R&D**
 - Awarded by 11 US agencies, including DoD, DHHS (bio & health), NSF, Energy, Commerce, Agriculture, Education, NASA, etc.
 - **Impacts more than a dozen NC university collaborators**

Federal Program: Awards are *highly* competitive (only 13% of Phase 1 applications are granted), and federal program has been adjudged through multiple program reviews to be sound in concept and effective in practice

One NC Small Business Program: Impacts

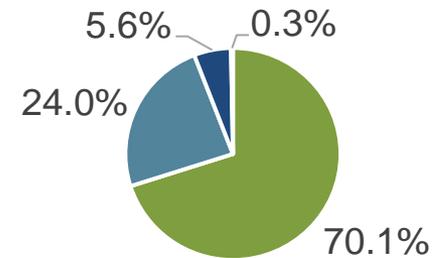
- \$33 million distributed to over 400 companies in 38 Counties & 60 Cities



One NC Small Business Program: Impacts

- \$33 million distributed to over 400 companies in 38 Counties & 60 Cities
- 70% of funded companies still in existence

Percentage of Current Business Status of One NC Small Business Program Matching Grant Receiving Companies (n=341)

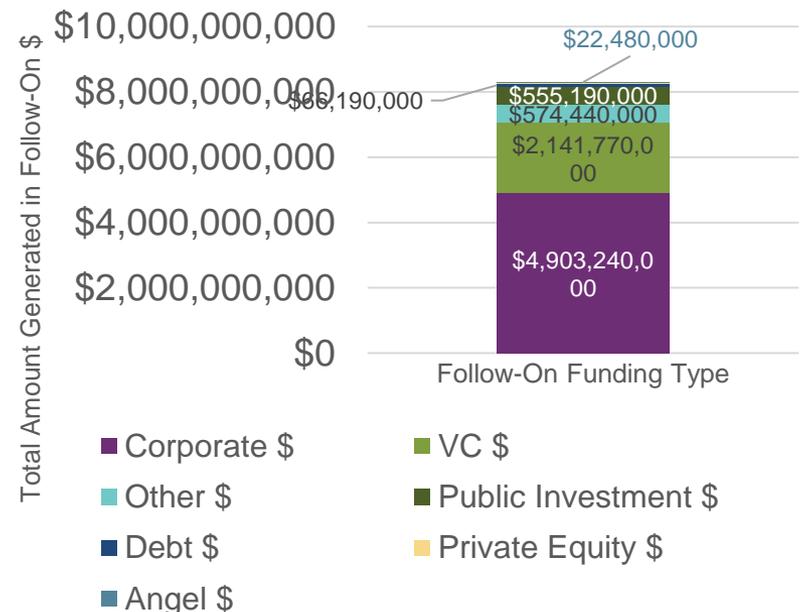


- Active Companies
- Disolved/Bankrupt Companies
- Acquired Companies
- Merged Companies

One NC Small Business Program: Impacts

- \$33 million distributed to over 400 companies in 38 Counties & 60 Cities
- 70% of funded companies still in existence
- \$8B in external investment ([more than 250x return on investment](#))

Total Follow-On Funding of One NC Small Business Matching Program Grantees Identified in Pitchbook, by Type of Funding, Q32004-Q42022



One NC Small Business Program: Impacts

- \$33 million distributed to over 400 companies in 38 Counties & 60 Cities
- 70% of funded companies still in existence
- \$8B in external investment (more than 250x return on investment)
- 60% of companies win Phase II awards with values of +\$1 million (versus 54% national average)

Phase I

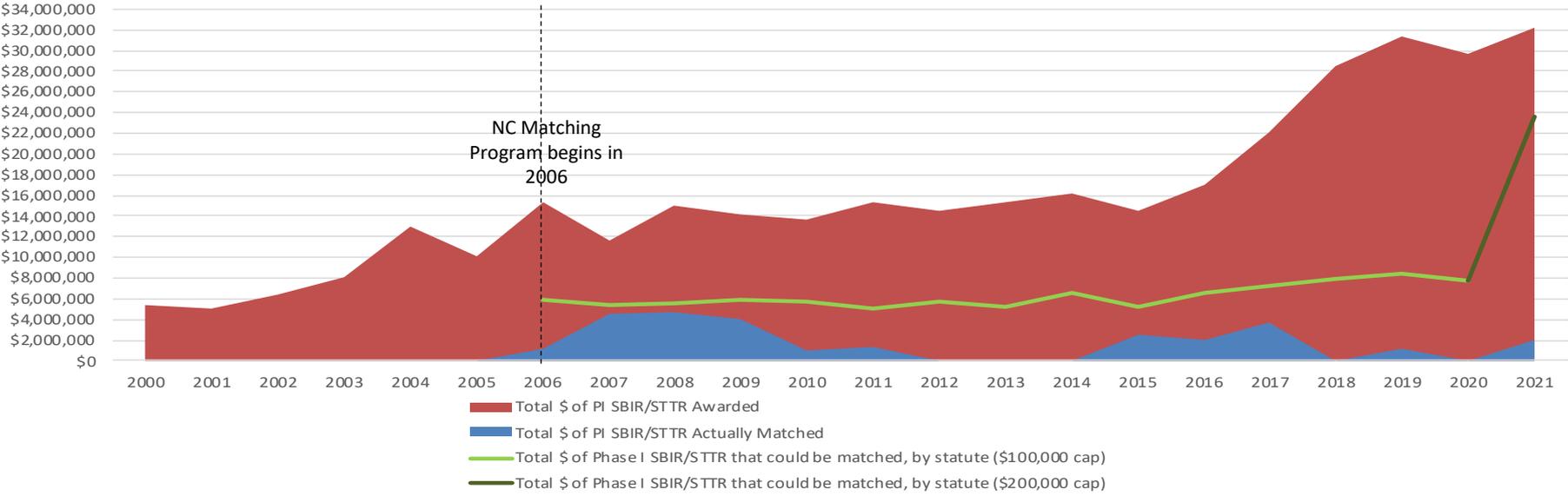
Concept Development
6 months
➤ \$150,000 - \$250,000
Award rate 15-20%

Phase II

Prototype Development
24 months
>\$1.0– \$1.5M
Award rate 35-40%

One NC Small Business Program: The Problem - Demand Strongly Exceeds Supply

Total Dollars of NC Phase I Awards vs.
Total Dollars of NC Phase I Awards that *Could* be Matched and that
Actually Were Matched by the One North Carolina Small Business Program



One NC Small Business Program: FY 2024-25 Budget Request

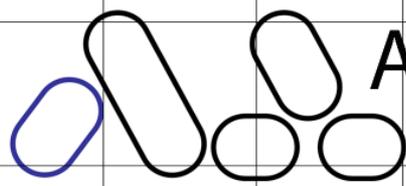
One NC Small Business Program: \$26M Total Expansion for Biennium

New expansion requests (in green) + existing \$2M Recurring annually (in black):

FY24: \$12M = \$4M New Recurring + \$8M Non-Recurring
\$ 2M Existing Recurring
\$14M Total FY24

FY25: \$14M = \$8M New Recurring + \$6M Non-Recurring
\$ 2M Existing Recurring
\$16M Total FY25

Supported by several NC organizations—including NC TECH Association, NC Biotechnology Center, NC BIO, NC Rural Center

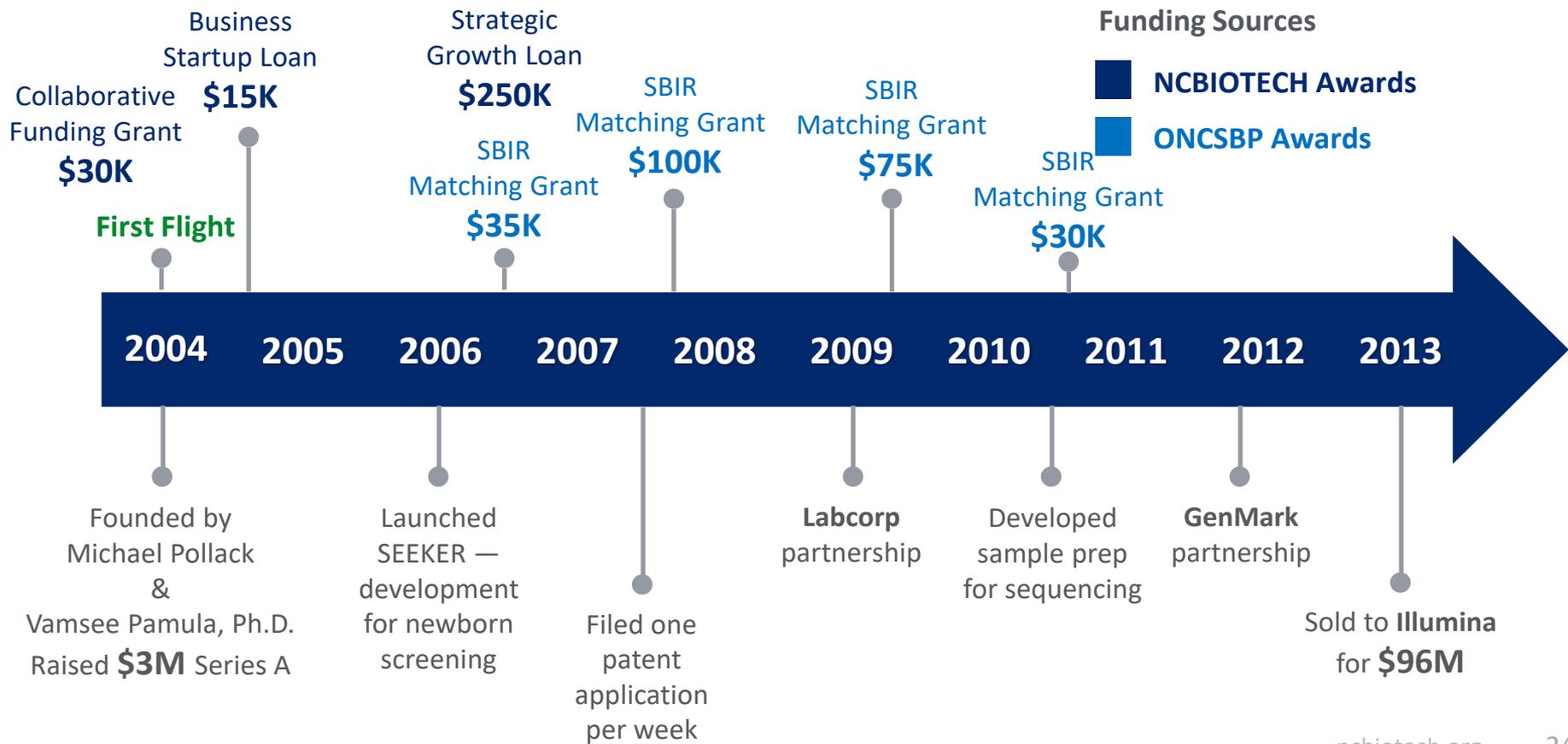


Advanced Liquid Logic

powered by Digital Microfluidics

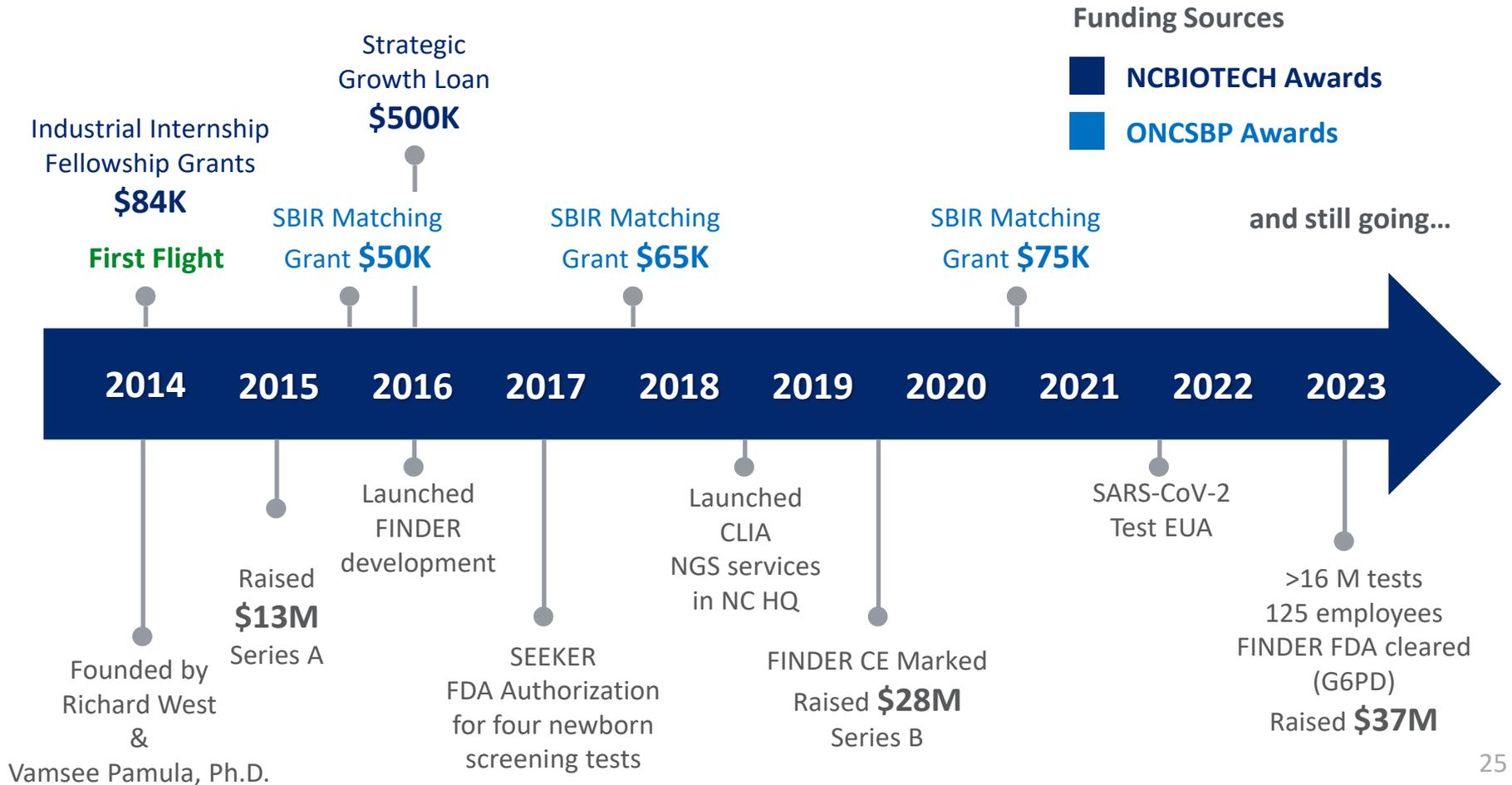


Digital microfluid technology invented at Duke University in the early 2000s



baebies

Technology licensed back (300+ patents) from **Illumina**



Founded by Richard West & Vamsee Pamula, Ph.D.

Successes

Baebies Delivers a Landmark 10 Million Newborn Screening Tests

Baebies, a Durham-based company specializing in disorder screening for newborns, has reached a company milestone of 10 million tests delivered to labs since its founding in 2014 that was bootstrapped by the North Carolina Biotechnology Center.

The company seeks to promote a healthy start in newborns' lives using digital microfluidics technology, which quickly and efficiently reads a small fluid sample for a variety of disorders. In the United States, more than one in 300 babies have a condition that will appear in these lab tests. Early detection of congenital disorders can provide a baby with proper therapy, often saving their lives.

NCBiotech awarded the company a \$500,000 loan in 2014.



 Rachyl Jones, NCBiotech
Writer

 Fri, 03/19/2021

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Baebies Receives FDA 510(k) Clearance for G6PD Test on FINDER Platform

DURHAM, N.C. – (November 9, 2022) – Baebies has received U.S. Food and Drug Administration (FDA) 510(k) clearance for its rapid, point-of-care test for glucose-6-phosphate dehydrogenase (G6PD) deficiency. The test is run on the FINDER[®] platform, which features a toaster-sized instrument and a disposable cartridge. Using a 50 µL blood sample (one drop of blood), FINDER delivers results approximately 15 minutes after sample introduction. Test results display G6PD enzyme activity in units per gram of hemoglobin and adjusted male median values. The company announced completion of CE Mark for FINDER in December 2019.



"This is a significant milestone not only for our company but for patients whose lives can be improved by detection of G6PD deficiency," said Richard West, co-founder and CEO of Baebies. "FINDER performs rapid testing from just one drop of blood, making testing easier and more accessible. With G6PD as the first FDA-cleared test on our FINDER platform, we look forward to adding many additional types of tests to the versatile and multifunctional platform."



NCBIO Supports Life Sciences Legislative Innovation Requests

NC Biotechnology Center

- Implement Venture Challenge and statewide programs \$0.5M
- Increase Grant and Loan funding \$1.5M
- Job creation, Job training, Company Recruitment/Marketing \$0.5M
- NCBiotech Center Staff Retention and Recruitment \$0.5M
- **Total Funding Request \$3.0M**

One NC Small Business Program

- **FY24: \$12M = \$4M New Recurring + \$8M Non-Recurring**
 \$ 2M Existing Recurring
 \$14M Total FY24
- **FY25: \$14M = \$8M New Recurring + \$6M Non-Recurring**
 \$ 2M Existing Recurring
 \$16M Total FY25

One NC Small Business Program

Appendix (Additional Information)

One NC Small Business Program: Additional Impacts

- Employs aprx. 3,000 people earning \$110 million in annual wages

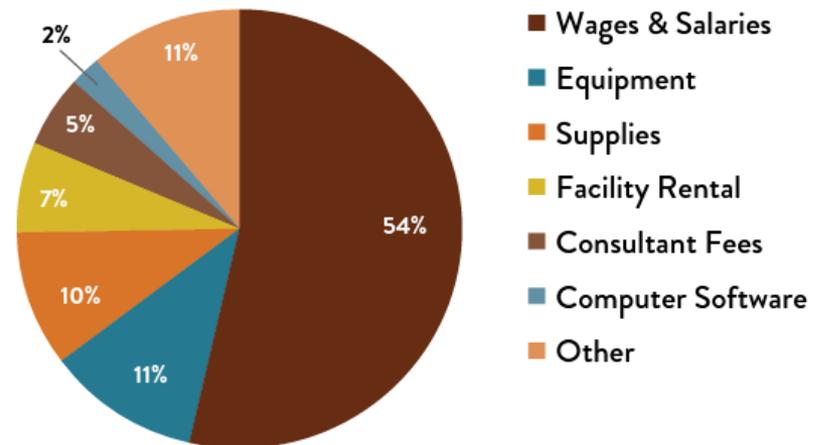
Total Number of **Employees** of One NC Small Business Program Grant-Receiving Firms, 2004Q3 thru 2021Q4 (n=341)



One NC Small Business Program: Additional Impacts

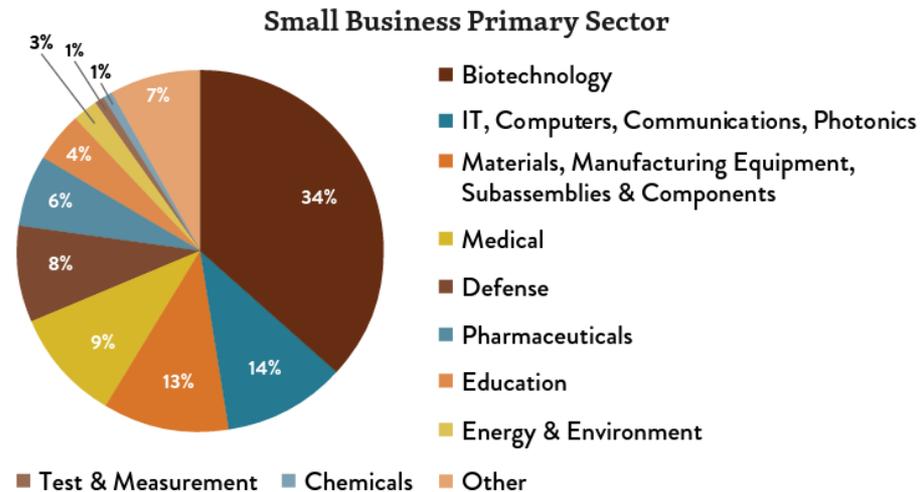
- Employs aprx. 3,000 people earning \$110 million in annual wages
- Funding used for various critical business & operations expenses

Small Business Use of Grant Funds



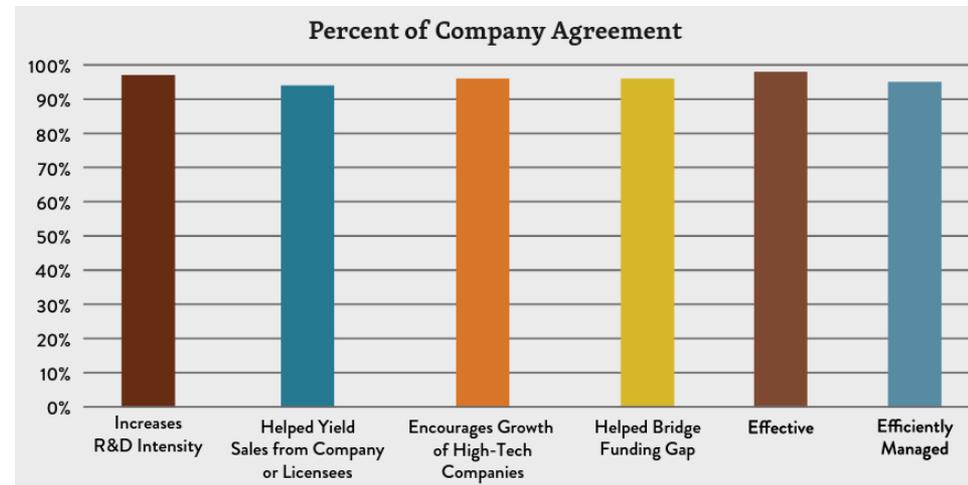
One NC Small Business Program: Additional Impacts

- Employs aprx. 3,000 people earning \$110 million in annual wages
- Funding used for various critical business & operations expenses
- Serves businesses across various sectors



One NC Small Business Program: Additional Impacts

- Employs aprx. 3,000 people earning \$110 million in annual wages
- Funding used for various critical business & operations expenses
- Serves businesses across various sectors
- Critical startup resource



One NC Small Business Program: Additional Impacts

- Employs aprx. 3,000 people earning \$110 million in annual wages
- Funding used for various critical business & operations expenses
- Serves businesses across various sectors
- Critical startup resource
- Generation of **+\$125M in direct total sales**, as well as **+\$1.5B in total indirect sales** (e.g., licenses), from technologies developed with Program funding

Hugely helpful to NC small businesses. Thanks for the support! You've allowed us to be competitive with companies on the West Coast where all the funding is.

FokusLabs Behavioral Solutions, Inc., Wake Forest