



# Investment in Bioscience Industries Overview

*Presenting on behalf of the New  
Mexico Bioscience Authority:*

July 2, 2024  
NMFA Oversight Committee

***Paul Laur***

Board of Director's Chair, NM Bioscience Authority, COO, Mercury Bio

***Dale Dekker, AIA***

Board Member, NMBSA, Founder, Dekker/Perich/Sabatini Architects, Engineers, & Planners

***Stephanie Tofighi, MSPP***

Executive Director, NM Bioscience Authority

***Ryan Cangiolosi, MBA***

Strategy & Policy Director, NMBSA; Economic Development Director, UNM HSC



# What is the NM Bioscience Authority (NMBSA)?

## Public/Private Partnership

Created by state legislation, SB 478 in 2017 to help grow a robust bioscience industry in New Mexico.

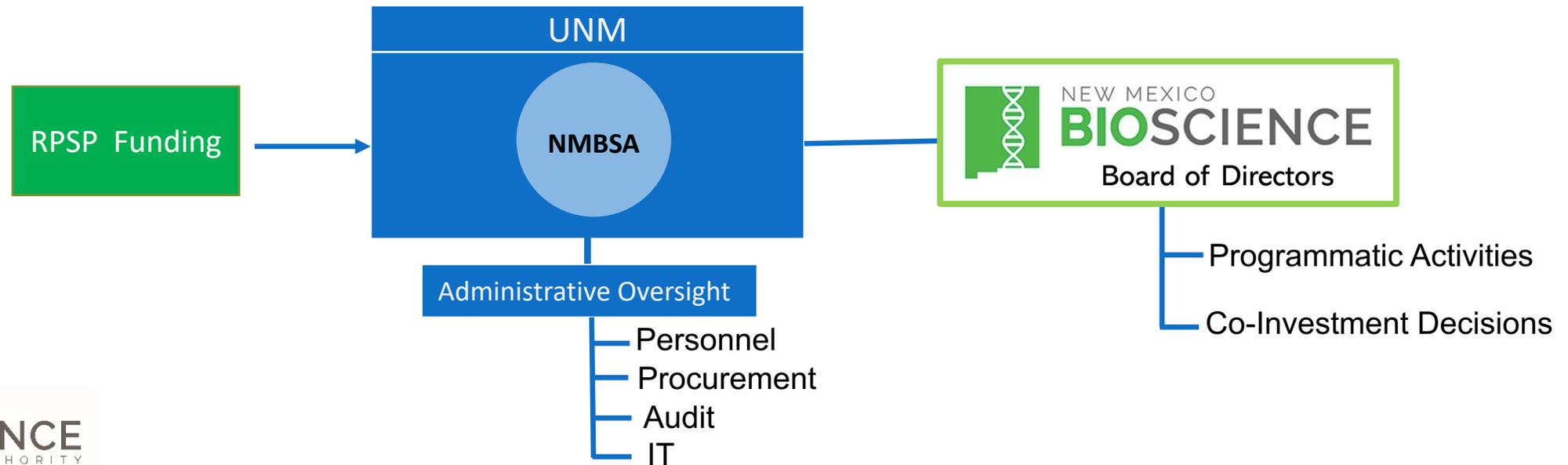
## Mission

To increase awareness and support for New Mexico's bioscience sector by attracting capital investors, influencing policy and assisting in infrastructure and business development. The NMBSA connects all necessary elements of: Research & Development, Technology Transfer, Investment and Funding and Workforce.



# Organization of NM Bioscience Authority

- 13-person board (appointed by Governor, Speaker of the House, Senate Pro-Tempore, and the three Research University Presidents) including UNM Health Sciences, NMSU, NM Tech, NM Economic Development Department, SpacePort Authority, and private industry
- Per the enacting legislation that created the NM Bioscience Authority, “The authority is administratively attached to and shall be considered an affiliated organization of the UNM Health Science Center” to assure conformity with state procurement rules, statutes, and guidelines and minimize costs.





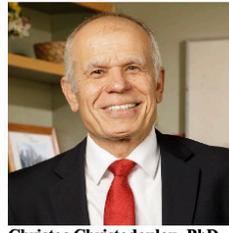
**Paul Laur, Board of Directors Chair, Chief Operating Officer (COO), Mercury Bio**



**Tanner Schaub, PhD, Vice Chair, Director, Research Cores Program, OVPR, NMSU**



**David Perkins, MD, PhD, President, Professor of Medicine, Internal Med Dept, UNM HSC**



**Christos Christodoulou, PhD, Vice President, Director of COSMIAC, ECE Prof., UNM**



**Francisco Pallares, DED, Secretary, Director of Business Develop, Spaceport America**



**Greg Byrnes, Board Member, ED at NM Biotechnology & Biomedical Association (NMBio)**



**Dana Catron, Board Member, Deputy Director, Arrowhead Center, NM State University**



**Dale Dekker, AIA, Board Member, Architect & Founder of Dekker/Perich/Sabatini Design**



**Tom Kieft, PhD, Board Member, Microbiologist NM Tech Biology Department**



**Alex Koglin, PhD, Board Member, Co-Founder of Nature's Toolbox**



**Nora Sackett, Board Member, Director of Special Projects, NM Economic Development Dept.**



**Prisca Tiasse, PhD, Board Member, Microbiologist, CEO of The Community Lab**



# NM Bioscience Authority Board of Directors

- 2 members appointed by UNM President
- 2 member appointed by NMSU President
- 1 member appointed by NMT President
- Secretary of EDD or Designee
- Executive Director of SpacePort Authority or Designee
- 4 members appointed by Speaker of the House and Senate Pro-Tempore
- 2 members appointed by Governor

# NM Bioscience Authority Staff

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**Stephanie Tofighi, MSPP**  
Executive Director



**Ryan Cangiolosi, MBA, MACCT**  
Strategy & Policy Director



**Anne-Laure "Anlo" Schmitt-Olivier, MS**  
Intellectual Property Specialist



**Sterling J. Nichols III, BS**  
Program Specialist

# Building a Stronger Bioscience Industry Through a Public-Private Partnership



## University/National Lab/Public Sector

- Contributes scientists and technical experts
- Minimizes technical risk, market risk, and evolving nature of market
- Supports existing business and workforce development
- Prioritizes support for members of traditionally underrepresented minority groups.

## Private Sector

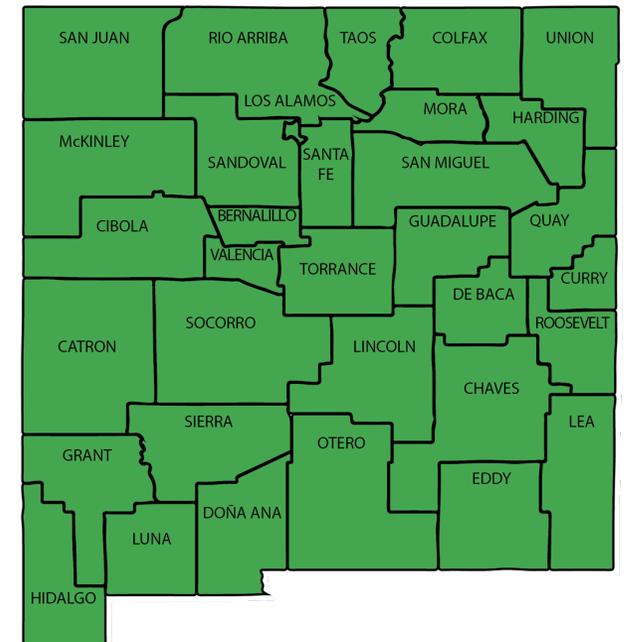
- Prioritizes economic growth and job creation
- Supports positive societal impact and community development
- Fosters community dynamics that support economic growth



**Why Biosciences...  
In New Mexico**

# ***New Mexico is Bioscience Ready!***

- We have the foundational elements!
  - University & National Lab research and patents
  - Workforce Generation
  - Existing companies & entrepreneurs
  - Some Venture Capital Financing available
- Creates high paying, green jobs
- Supports the creation of four times the number of direct jobs through indirect (supply chain) and induced (employee spending) impacts



# Biosciences are Valuable to New Mexico's Economy

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## Five Industries Make Up Bioscience Sector

1. Agricultural feedstock and chemicals
2. Bioscience-related distribution
3. Drugs and pharmaceuticals
4. Medical devices and equipment
5. Research, bioinformatics, testing and medical laboratories

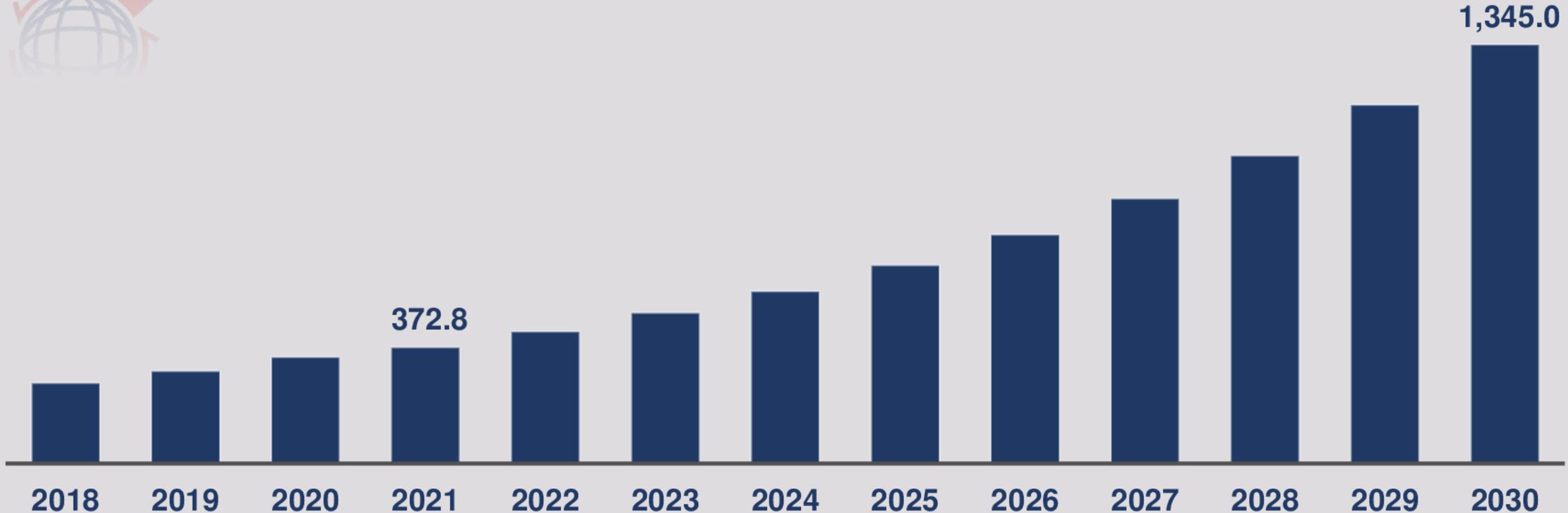
## “Biosciences” included in three of the State's Target Industries

- Biosciences
- Sustainable & Value-Added Agriculture
- Renewable & Green Energy





## Biotechnology Market, 2018-2030 (USD Billion) CAGR Around 15.5% from 2022-2030



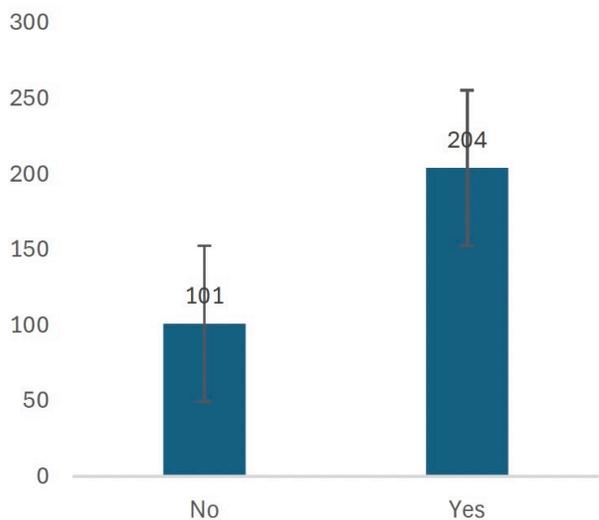
The **Global Biotechnology Market** size is predicted to reach \$1.345 trillion by 2030 with a compound annual growth rate (CAGR) of 15.5% from 2022-2030.

Source: Acumen Research And Consulting

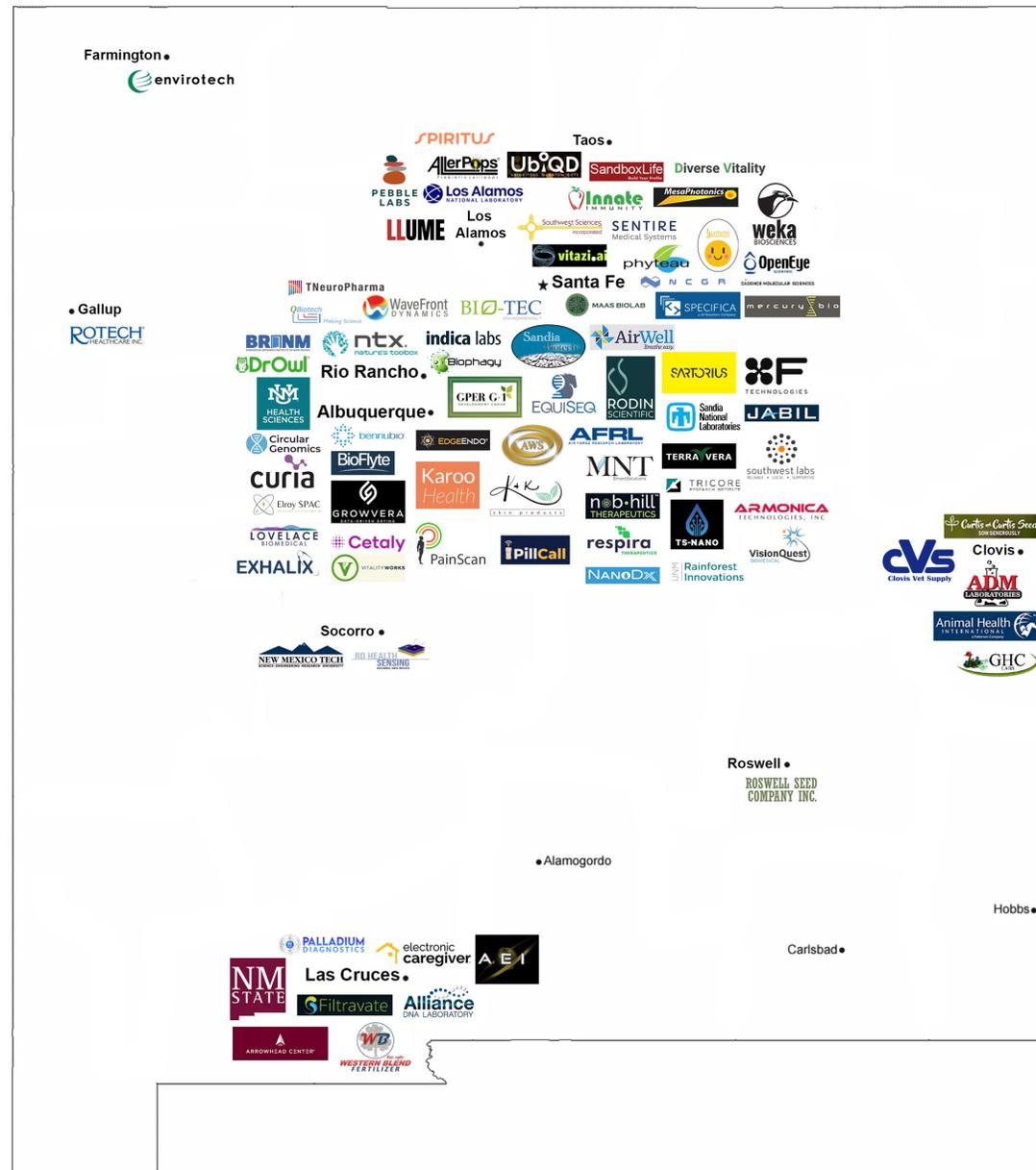
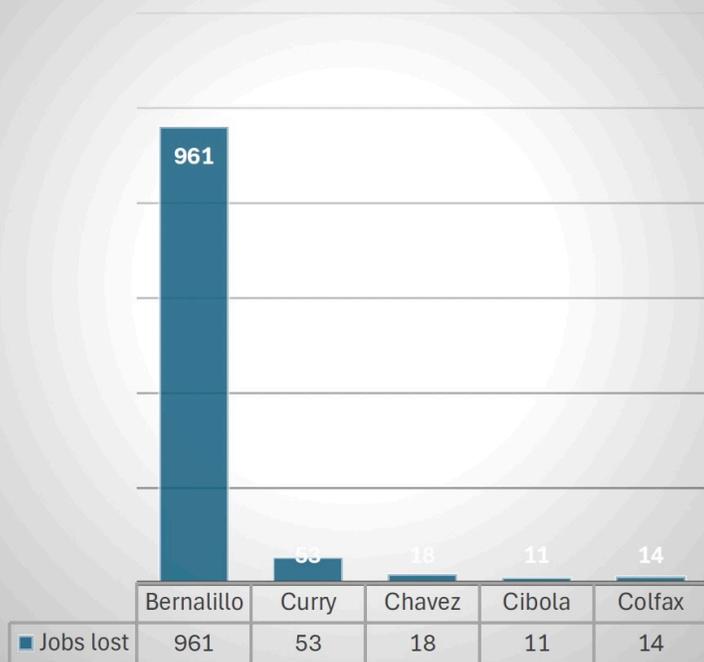
# State of New Mexico's Bioscience Industry

## New Mexico Bioscience Companies - 2024

Companies on Grow-Bio report still in NM

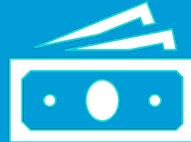


Bioscience Jobs lost

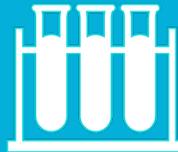


# What do Bioscience Companies Need to Succeed in New Mexico?

Financial Capital



Lab Space



Educated Workforce

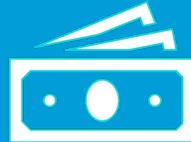


Experienced Executive Leadership

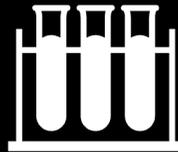


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# Prioritize Federal Initiatives

## THE INFLATION REDUCTION ACT:

What this means for the fight against climate change, tax inequality, and extreme health care costs.

**\$669B**



## Presidential Order on Advancing Biotech and Biomanufacturing Innovation

## CHIPS & Science Act

America invented the **semiconductor**, but today produces about 10% of the world's supply – and none of the most advanced chips. The new Act – worth nearly \$150 billion – will return manufacturing to the US, lowering costs, creating jobs, and strengthening supply chains.

**\$52.7B**

for American semiconductor research, development, manufacturing, workforce development

### THE ACT INCLUDES

**\$39B**  
Manufacturing incentives

**\$13.2B**  
R&D, workforce development

**\$2B**  
Legacy chips used in automobiles, defense systems

**\$1.5B**  
Promoting, deploying, wireless technologies using open, interoperable radio access networks

**\$500M**  
International information communications technology security and semiconductor supply chain activities

### THE ACT AUTHORIZES

#### \$10B INVESTMENT

in regional innovation, **TECHNOLOGY HUBS** across the country

#### INVESTMENTS

Expanding geographic, institutional diversity of research institutions and the students, researchers they serve, including supporting \*\*HBCUs and other minority-serving institutions, academic institutions providing opportunities to **HISTORICALLY-UNDER-SERVED STUDENTS**, communities

#### STEM EDUCATION

New and expanded investments in **SCIENCE TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM)** education and training from K-12 to community college, undergraduate, graduate education

#### \$1B RECOMPETE PILOT PROGRAM

at the Department of Commerce's \*EDA, **ALLEVIATING PERSISTENT ECONOMIC DISTRESS**, supporting long-term comprehensive economic development job creation in the most distressed communities

## 10 KEY TECHNOLOGIES

**\$110B**



## U.S. DEPARTMENT of STATE

### Critical and Emerging Technologies (CET) list:

- Advanced Computing
- Advanced Engineering Materials
- Advanced Gas Turbine Engine Technologies
- Advanced Manufacturing
- Advanced and Networked Sensing and Signature Management
- Artificial Intelligence
- Autonomous Systems and Robotics

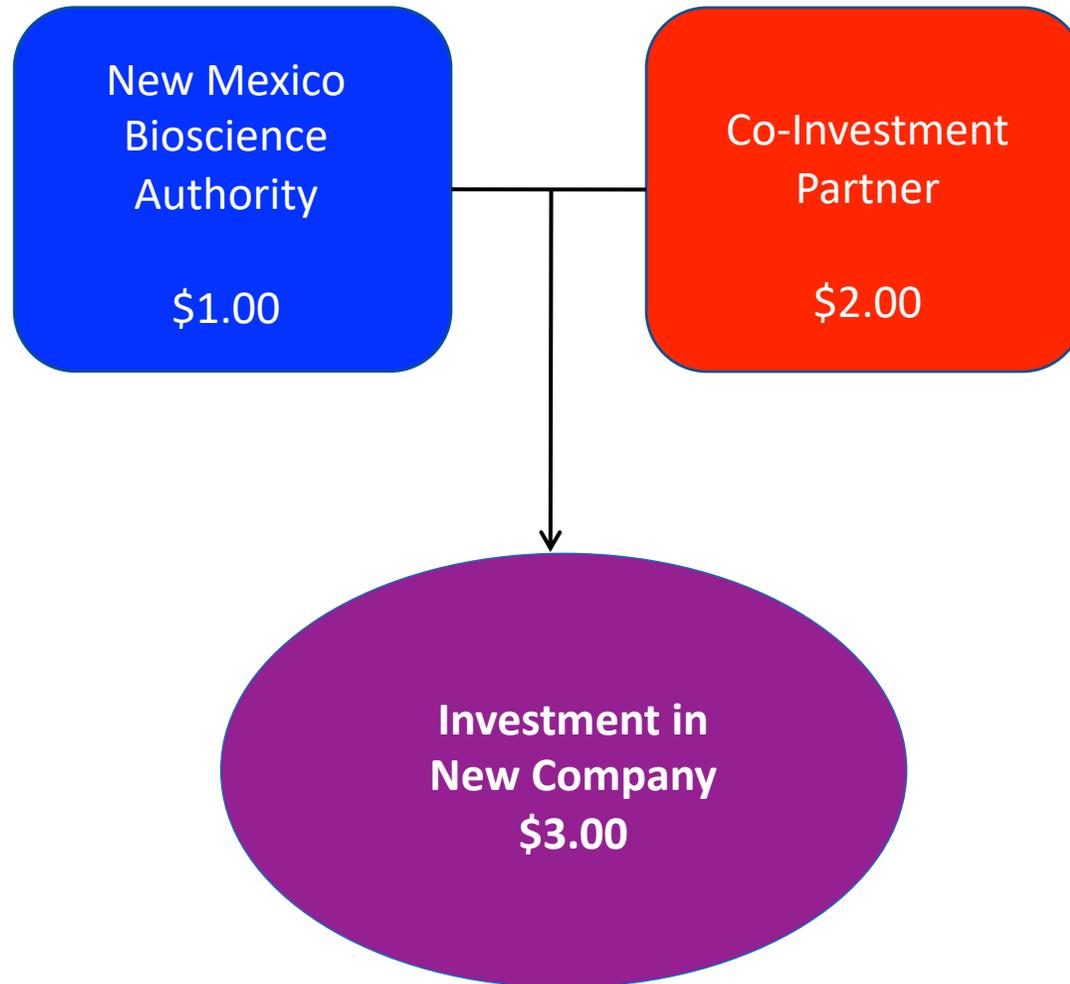
### • Biotechnologies

- Communication and Networking Technologies
- Human-Machine Interfaces
- Networked Sensors and Sensing
- Quantum Information Technologies
- Semiconductors and Microelectronics
- Space Technologies and Systems

### 5 Newly added CET List:

- Advanced Nuclear Energy Technologies
- Directed Energy
- Financial Technologies
- Hypersonic Capabilities
- Renewable Energy Generation and Storage

# NMBSA Co-Investment Fund



## Main Objective

- Create and/or Grow NM Companies & Jobs
- Encourage Investing in NM Bioscience
- Increase capital for investments

## Investment Partner Criteria

- **Qualifies to be lead investor**
- Will provide a **2:1 match of funds**
- **Is actively sourcing, vetting and investing in companies**
- **Has investment experience in bio-related industry**
- **Has existing capital for co-investment and is currently investing in bioscience companies**

# \$50M Co-Investment Fund Request



Will be matched 2:1 by private investors for total \$150M in investments over 5 years.



Co-Investment of state and private dollars to start new companies or recruit companies.



Will Invest in all stages of business growth (pre-seed, Series A, B,C; Main Street and high tech).



Co-investments will initially be between \$100K to \$1.5M per company.



Successful investments will return funds so program will be self-renewing and sustainable.

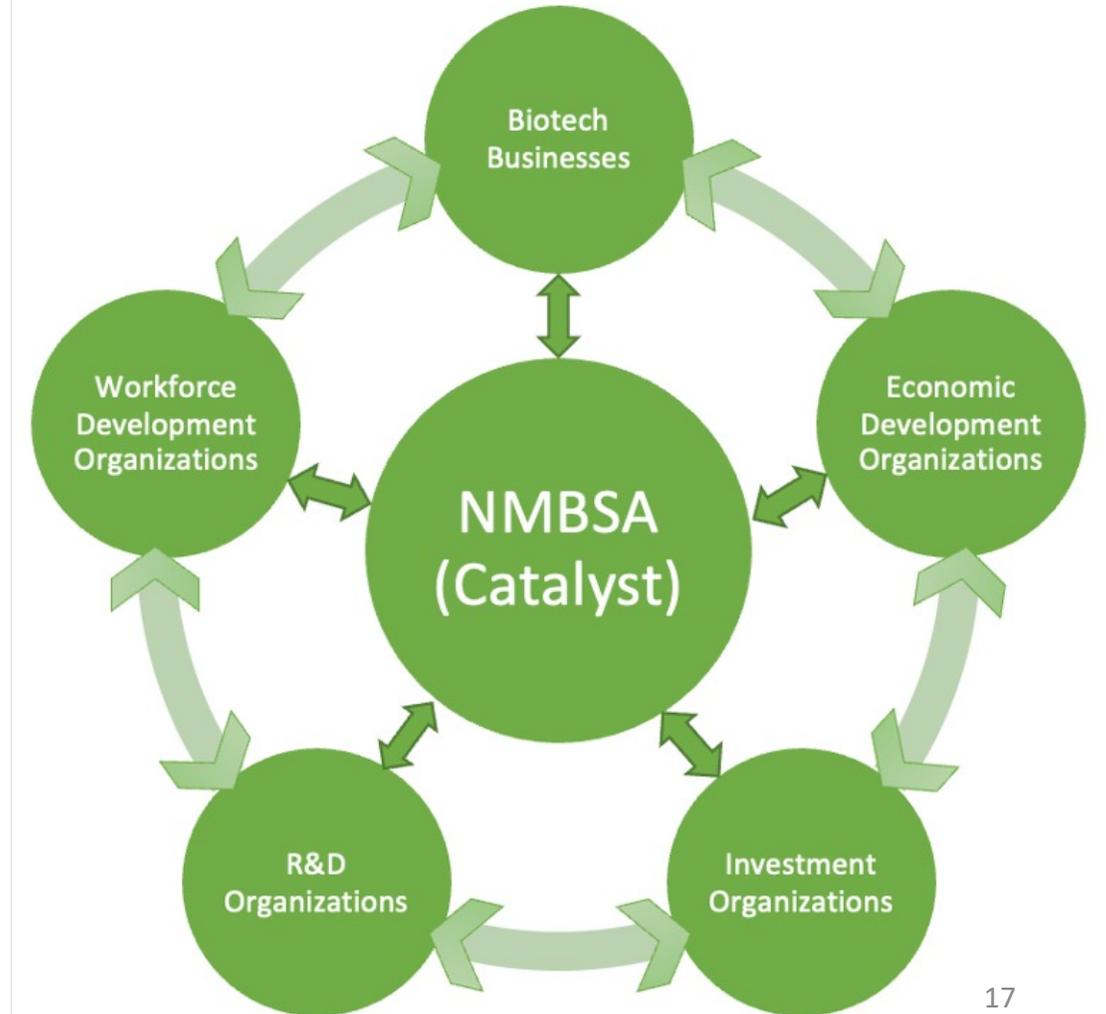


Will build economy throughout state.



# Why Should the NMBSA Lead the Co-Investment Fund?

- The New Mexico Bioscience Authority is the industry sector's champion. We are the catalyst that can support the connectivity for all the players throughout the state within this domain.
- Not only can we make valuable investments in collaboration with private investment organizations, but we are also able to provide the support to growing companies necessary for them to succeed beyond the financial investment.
- Internships, workforce development, research and technical support, marketing and customer discovery support are all part of what we envision as our role as the catalyst of a thriving bioscience ecosystem.



Feedback  
from  
Industry  
Board  
Members

**Chair Paul Laur,**  
COO Mercury Bio



**Director Alex  
Koglin, PhD,**  
Co-Founder, Nature's  
Toolbox

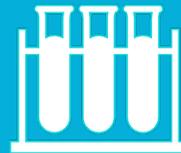


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Experienced Executive Leadership



# Current Bioscience Incubators & Accelerators



## ABQid

*Albuquerque, NM*

Helping high-growth startups access the knowledge, resources, and connections they need to prosper.



## Bioscience Center

*Albuquerque, NM*

Bio, Pharmaceutical and Medical Device Companies



## CNM Ingenuity Inc.

*Albuquerque, NM*

Ignite Community Accelerator Program



## Enterprise Center

*Farmington, NM*

San Juan College Business Incubator



## Launch

*Las Cruces, NM*

Arrowhead Center at New Mexico State University



## Los Alamos Makers

*Los Alamos, NM*

A community makerspace for all ages and abilities that is part of the **New Collar Network**



## New Mexico Start-Up Factory

*Albuquerque, NM*

Bringing Laboratory Technologies to Market



## Santa Fe Business Incubator

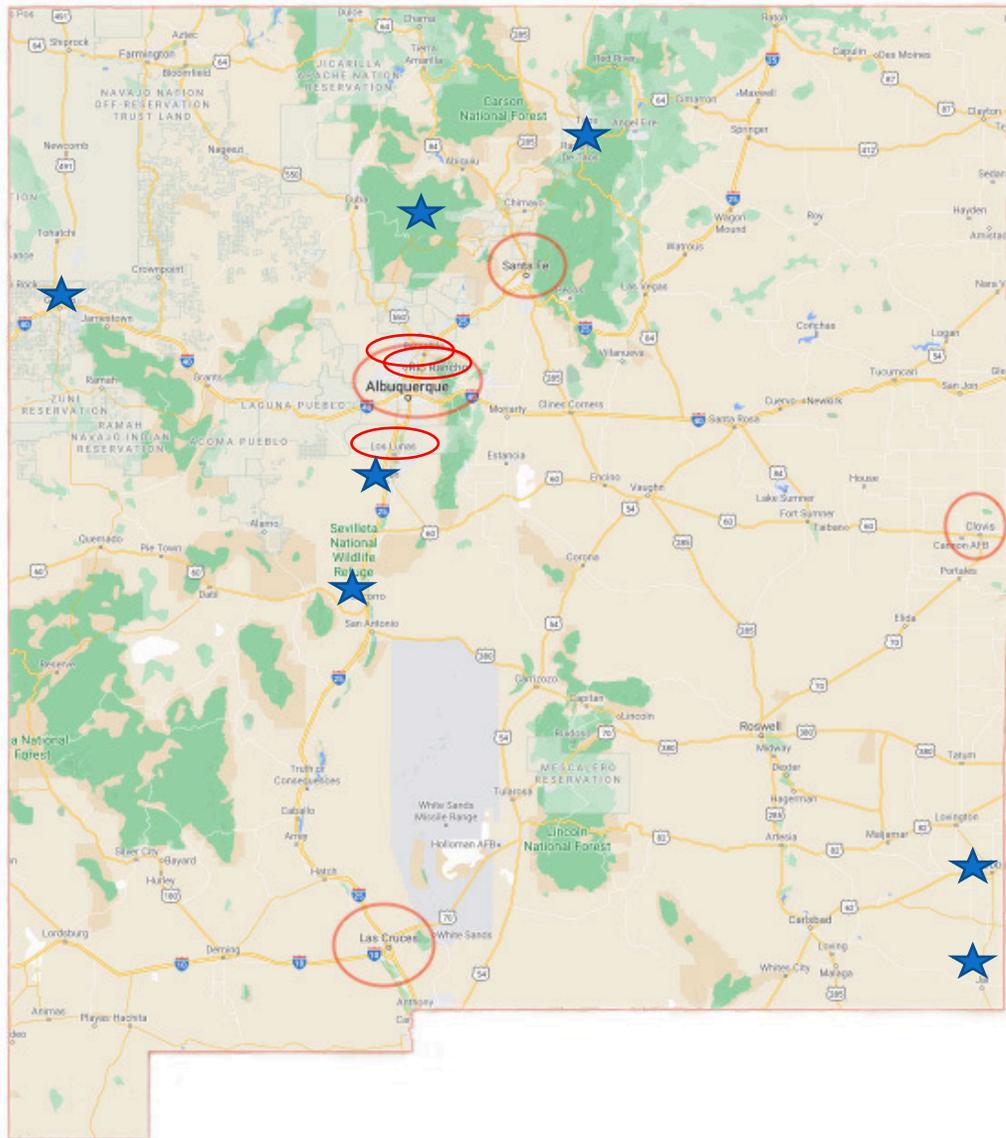
*Santa Fe, NM*

Provides a Supportive Environment for Entrepreneurs



# Community Readiness Program

## *Mapping Our Progress*



### Sites Currently Being Certified (circled)

- **Los Lunas, Santa Ana Pueblo, and Clovis**
  - Currently working on certification process
- **Albuquerque - 8 certified sites**
- **Rio Rancho - 1 certified site**
- **Santa Fe – 2 certified sites**
- **Arrowhead Center – 5 certified sites**
- **Las Cruces – 1 certified site**

### Next Steps (starred)

- Developing relationships to start the process in these communities
  - Los Alamos, Socorro, Taos, Gallup, Jal, Hobbs, Belen, and Roswell

## Levels of Certification

### Bronze

Balloon Fiesta Park - Albuquerque  
Mesa del Sol - Albuquerque  
Santa Fe Business Incubator - Santa Fe

### Silver

Sandia Science & Technology Park - Albuquerque  
University of New Mexico North Campus - Albuquerque  
Genesis A Lab Space - Arrowhead Research Park, Las Cruces  
Genesis B Lab Space - Arrowhead Research Park, Las Cruces  
City Center - Rio Rancho  
Santa Fe Community College - Santa Fe

### Gold

Atrisco Business Park - Albuquerque  
Innovate ABQ - Albuquerque  
University of New Mexico Science Tech Park - Albuquerque  
Volcano Heights - Albuquerque  
Arrowhead Research Park Site 1 (3 acres) - Las Cruces  
Arrowhead Research Park Site 2 (2.5 acres) - Las Cruces  
Arrowhead Research Park Site 3 (4 acres) - Las Cruces  
Industrial Park - Las Cruces

## Available Land, but Lack of Built Labs

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- Bronze Certification denotes local zoning allows for biotech laboratory, manufacturing and/or research & development as permissive uses.
- Silver Certification denotes 'shovel ready' site(s) available for development.
- Gold Certification denotes the presence of existing buildings in which biotech laboratory, manufacturing and/or research & development activities are taking place.

# Proposed Wet Lab & Incubator/Accelerator Capital Outlay Project

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- Funding needed to plan and build wet lab space in an incubator to provide shared space, shared equipment and animal access, and accelerator programming orchestrated by the NM Bioscience Authority staff.
- Accelerator would facilitate tailored support to commercialize research university and national lab innovation.
- Space is available within Community Readiness zones throughout Albuquerque where the majority of lab space need has been identified.
  - Lomas Corridor
  - Sandia Science & Tech Park
  - UNM Science Tech Park
  - Balloon Fiesta Park



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# Disconnect Between NM Student Expectations & NM Bioscience Jobs

## Availability of Workforce (NM Graduates in Bioscience-Related Fields, 2011 – 2020)<sup>1</sup>

- Natural Sciences (6,389)
- Health Professions, excl. BSN (6,551)
- Engineering/Tech/CS (10,051)
- Business (16,369)



### Realities

- ~120 bioscience related jobs available in NM at any given time.
- Necessary experience ranges from high school graduates to PhDs.
- Bioscience includes a broad range of industries.

Plenty of NM students graduating with relevant degrees

Number of Bioscience jobs throughout the U.S. are on the rise including in New Mexico



### Employment Index Increase, 2020 – 2030<sup>2</sup>

- Bioscience (17% increase)
- Total Private Sector (7.7% increase)

70% of NM bioscience graduates are leaving the state to find jobs

Therefore...

Job postings in NM have not previously been consolidated, and niche certification or experience are often required

### Common Misbeliefs

- “There aren’t enough jobs in NM”
- There aren’t any bioscience companies near me.
- “Don’t I need a PhD?”
- “I’m not a doctor”
- “I like working outside”

<sup>1</sup>NM HED Annual Report

<sup>2</sup>U.S. Bureau of Labor Statistics

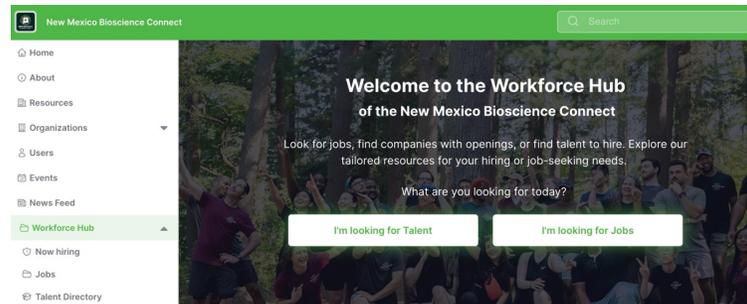
# Addressing the Disconnect Between NM Student Expectations & NM Jobs

## Availability of Workforce (NM Graduates in Bioscience-Related Fields, 2011 – 2020)<sup>1</sup>

- Natural Sciences (6,389)
- Health Professions, excl. BSN (6,551)
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<https://nmbioscienceconnect.com/workforce>



Plenty of NM students graduating with relevant degrees

Number of Bioscience jobs throughout the U.S. are on the rise including in New Mexico



Employment Index Increase, 2020 – 2030<sup>2</sup>

- Bioscience (17% increase)
- Total Private Sector (7.7% increase)



Tools & organizations have now been developed to recruit employees & showcase NM jobs

State resources need to support efforts to find and fill jobs



<sup>1</sup>NM HED Annual Report  
<sup>2</sup>U.S. Bureau of Labor Statistics

# NMBSA Suggested Statewide Bioscience Internship Experience

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- Proposed internship program will be facilitated by NMBSA in collaboration with colleges and universities throughout state as part of proposed Incubator/Accelerator.
- Internship will help ensure students engaged in bioscience have the opportunity to experience the various job opportunities throughout the state while they are still working on their degree.
- It will create a network of peers and mentors that could also lead to the development of new businesses as students become more engaged.
- Opportunities will begin with undergrad students but in time will branch out to high school and graduate students.
- Program will allow students hands-on experience that has been proven influential in stimulating STEM students to complete undergraduate degrees and seek higher education, particularly those from under-represented minority groups.
- Internships will also create positions for startup companies that need to be filled quickly by eager employees ready to learn their trade.
- Internship experiences can transition into job opportunities to help companies fill niche positions and for students to look forward to a job right out of their degree.



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# Many NM Bioscience Companies are Outsourcing C-Suite Executives

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- As companies grow beyond the initial product development, many have started to recruit out of state C-Suite executives which has resulted in fledgling companies moving either closer to their executive's location or that of their main investors.
- Successful remote executive leadership does happen, but a minimal number of individuals in the state with C-Suite executive leadership capacity has been identified as a resource gap the state could help support.
- NMBSA encourages in-state training programs to better prepare a generation of executives to support the commercialization of the state's bioscience innovation.

# Entrepreneurial Education Training to Support Commercialization of Academic Research

- In partnership with ASCEND 2.0, UNM HSC, and UNM Anderson School of Management, the NMBSA is helping to develop a program to train researchers how to manage their business operations in coordination with the research they are conducting.
- Meant to help researchers better understand the hiring and management process to better facilitate successful tech transfer and company development.



## Discover the UNM Health Sciences Economic Development Initiative

A Collaborative Entrepreneurial & Technology Transfer Educational Program

In partnership with the UNM Anderson School of Management

**Goal:** These courses are designed to empower medical and health professionals at UNM with the entrepreneurial and technology transfer skills necessary to bring innovative healthcare solutions to market, contributing to the advancement of global healthcare.

**Duration:** Each “day” consists of a 2-hour instruction block followed by a 1-hour (optional) mentoring session.

**Cost:** Each 4-week class is offered by the **UNM Anderson School of Management** in conjunction with the **Innovation Academy**. \$1,599 per student, tuition remission eligible.

**Location:** UNM Health Sciences, North Campus.

**Cohort Size:** Minimum enrollment of 12 participants per course.

**Delivery Method:** In-person. Zoom recordings available for participants not able to attend.

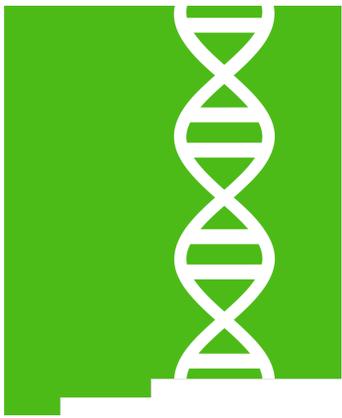
**Instructors:** Anderson School of Management tenure-track and other professional faculty.

ASCEND 2.0, UNM Health Sciences Economic Development, UNM Health Sciences Office of Research, UNM Anderson School of Management, New Mexico Bioscience Authority, and UNM Innovation Academy

# Increased NMBSA Annual Funding Request to \$1 Million/Year

- Contract with **Grant Developer** to support bioscience inventors and small business owners to submit funding requests as well as support the BSA's efforts to submit large funding requests to enhance the industry.
- Contract with **Investment Analyst** to advise Authority on co-investment partner agreements and investment business suggestions.
- Hire **Business Accelerator Facilitator** to catalyze networking between bioscience entrepreneurs and inventors and direct users to necessary resources to help build a bioscience coalition throughout the state.
- Provide **internships** and mentoring stipends for students and faculty at all three research universities to work in accelerator program to learn small business practices and support companies and entrepreneurship.
- Lead New Mexico's participation at bioscience national and international trade shows to help **market the state's assets**, facilitate partnering opportunities, and **connect with resources** needed to help companies grow.





# Summary of NMBSA's Recommendations

- \$50 Million for Co-Investment Program
- Planning and building funds to develop Wet Lab & Incubator/Accelerator Space
- Increase annual NMBSA budget to \$1 Million/year to facilitate proposed programming



# Questions?

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<https://www.nmbioscience.org/>