



# NM Bioscience Authority

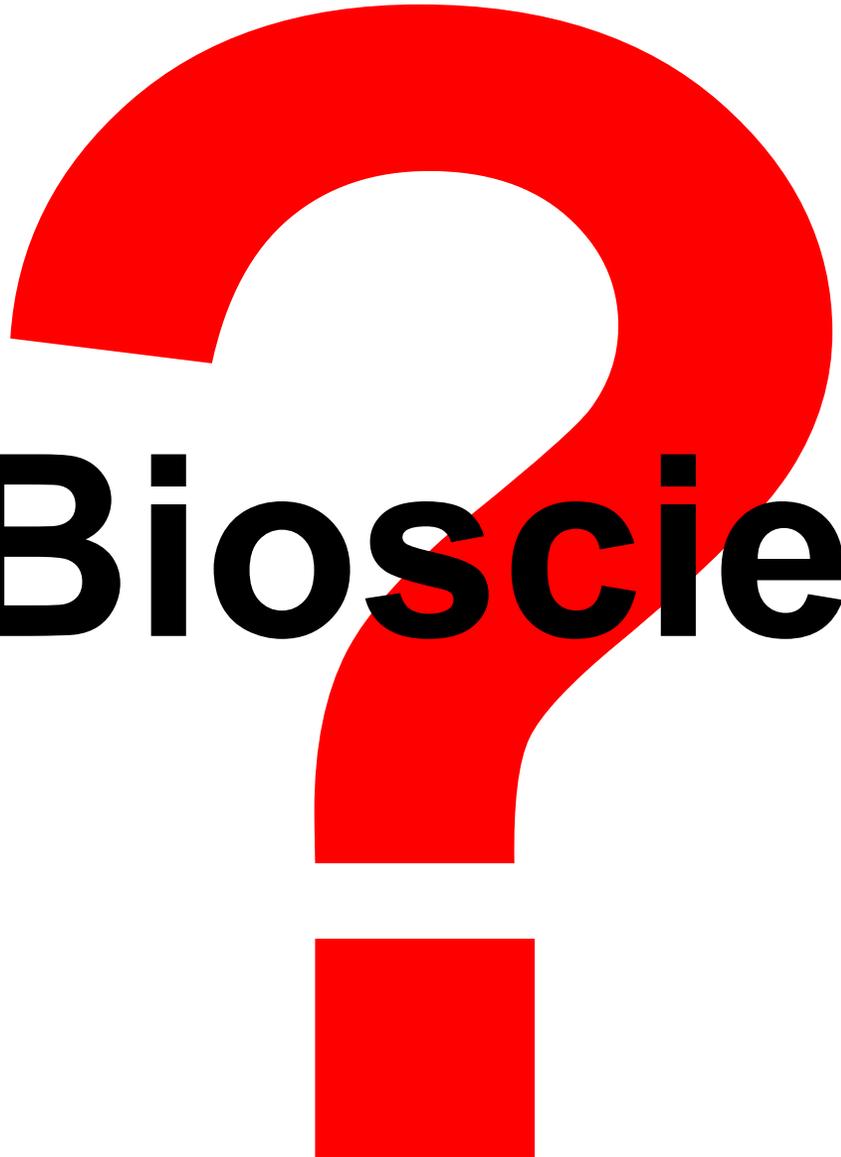
*Presenting on behalf of the New Mexico Bioscience Authority:*

September 13, 2021

Dale Dekker, AIA, AICP

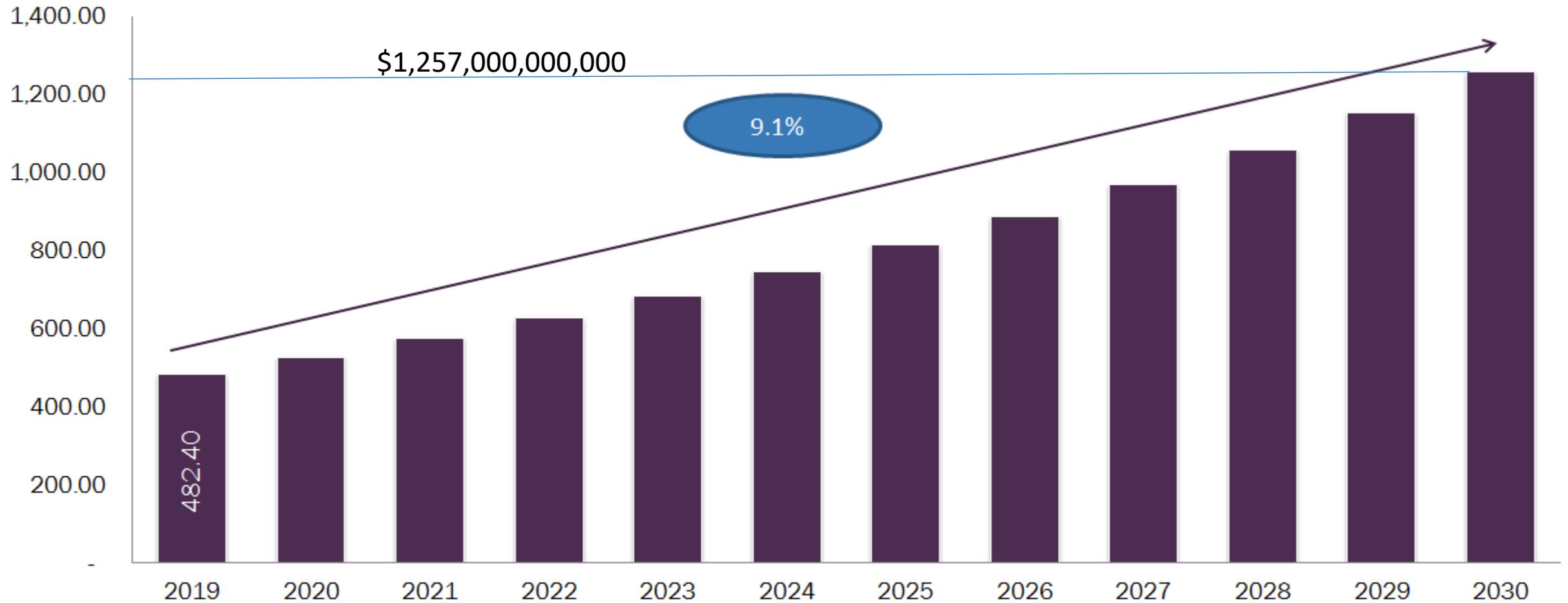
Board of Director's Chair, NM Bioscience Authority

Founder, Dekker/Perich/Sabatini Architects, Engineers, & Planners



**Why Biosciences...**

## Global Biotechnology Market, 2019-2030 (USD BN)



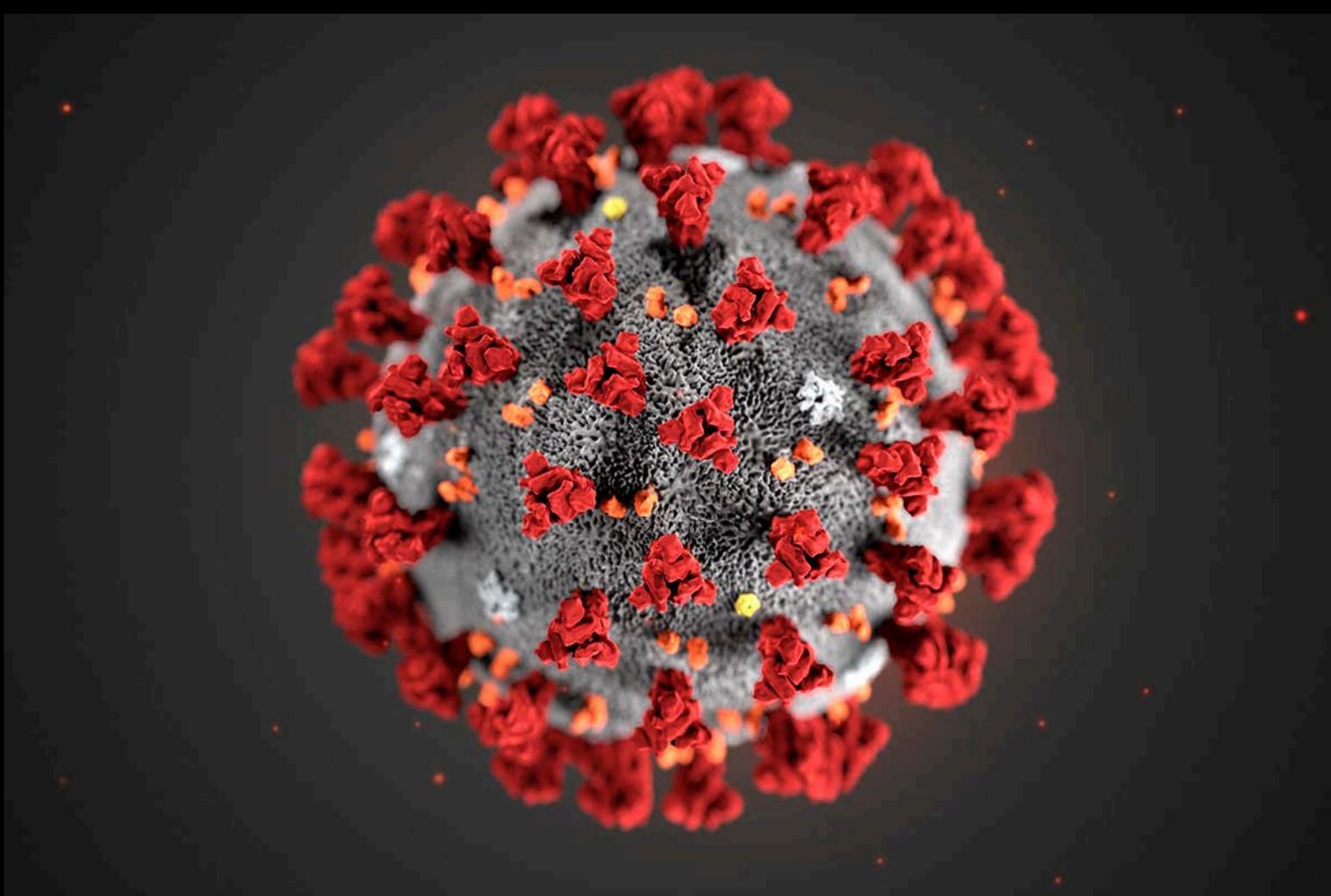
The **Global Biotechnology Market** size is estimated to be USD 482.40 billion in 2019 and is predicted to reach USD 1.257 trillion by 2030 with a CAGR of 9.1% from 2020-2030.

The way we're really going to grow the economy is to invest in people, to invest in innovation, to have the federal government put money in the kind of research that will create the new high-technology, biotechnology industries that will create the millions of new jobs.



**Joe Lieberman**  
Former United States Senator  
Born 1942

QUOTEHD.COM



“The shockwaves of the coronavirus pandemic cannot be overstated.”

2021 Kearney-Confidence Index

<https://businessfacilities.com/2020/04/top-10-covid-19-takeaways-for-corporate-site-selection/>

## *In the headlines...*

**“Overextended and risky supply chains are no longer tolerable....”**

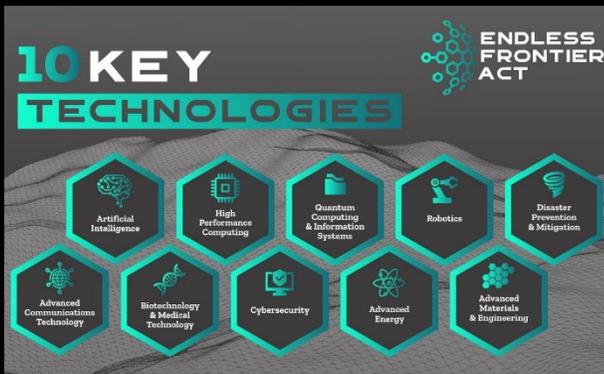
**“91% of the companies affected by the supply chain disruption in China are U.S. based.”**

**“The U.S. medical devices and biopharma sector is dangerously concentrated in China must be the first in line to disinvest there and reinvest back in the U.S.”**

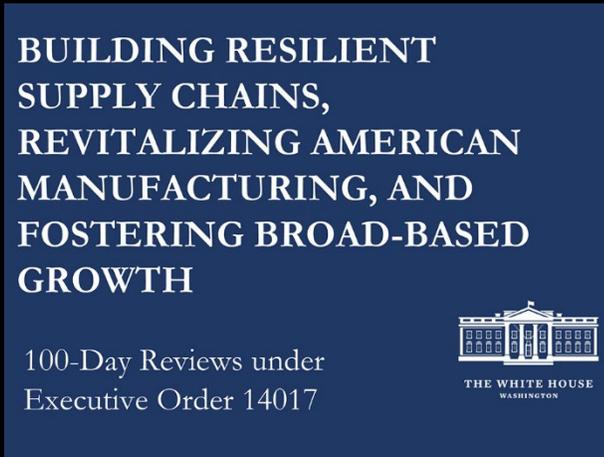
**“COVID-19 is providing new and forceful momentum for the re-shoring of manufacturing investment back to the U.S. from China and elsewhere.”**



**“The coronavirus has exposed a dangerous risk to the national security and safety to United States citizens...”**



# Innovation/R&D

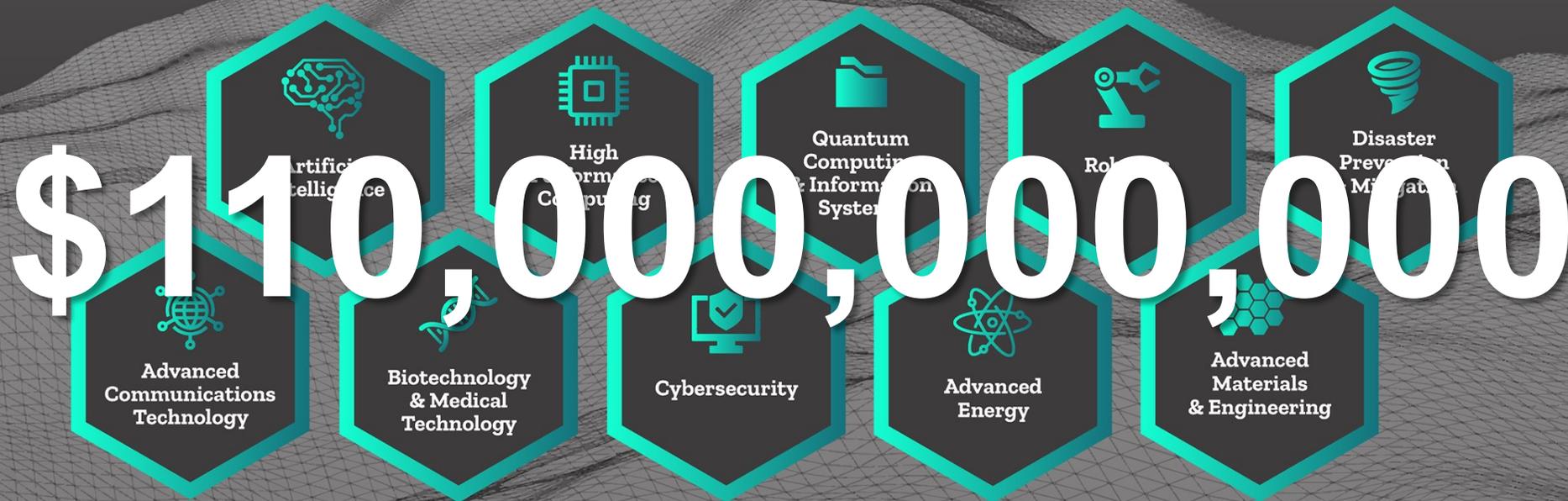


# Resilient Supply Chains



# 21<sup>st</sup> Century Infrastructure

# 10 KEY TECHNOLOGIES



## United States Innovation and Competition Act of 2021

“The act is aimed at competing with China and to respond to US fears of an AI Cold War”

# Innovation

**10 KEY TECHNOLOGIES**

**ENDLESS FRONTIER ACT**

- Artificial Intelligence
- High Performance Computing
- Quantum Computing & Information Systems
- Robotics
- Disaster Prevention & Mitigation
- Advanced Communications Technology
- Biotechnology & Medical Technology
- Cybersecurity
- Advanced Energy
- Advanced Materials & Engineering

**\$110,000,000,000**

**Biotechnology & Medical Technology**

**NM STATE UNIVERSITY**

**NNM**

**NEW MEXICO TECH**  
SCIENCE · ENGINEERING · RESEARCH UNIVERSITY

**Los Alamos NATIONAL LABORATORY**  
EST. 1943

**Sandia National Laboratories**

**AFRL**  
THE AIR FORCE RESEARCH LABORATORY  
LEAD | DISCOVER | DEVELOP | DELIVER

**Tech Transfer & New Companies**

# New Mexico Economic Development Clusters

Aerospace & Defense



**Biosciences**

**Sustainable Ag**

Cyber Security

Global Trade

Advanced Manufacturing

RE/Green Energy

# What is Bioscience?

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## Six Industries Make Up Bioscience Sector:

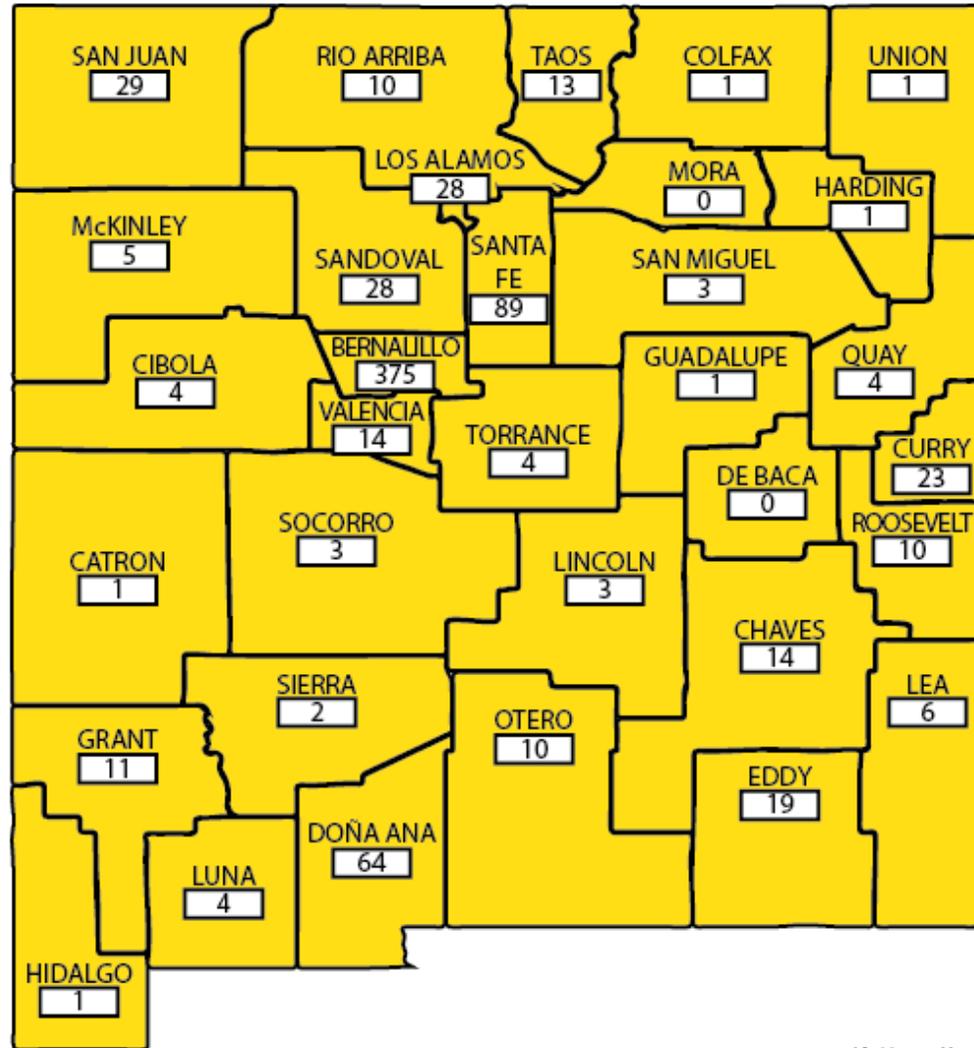
1. Agricultural feedstock and chemicals
2. Bioscience-related distribution
3. Drugs and pharmaceuticals
4. Medical devices and equipment
5. Research and bioinformatics
6. Testing and medical laboratories





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

# Number of Bioscience Companies in New Mexico\*



**Legend**

# Number of Bioscience Companies per County

**Key Takeaways**

781 Total Companies

32 Companies with more than 50 employees

**Relevant NAICS Codes\***

- #3391 - Med. Equip & Mfg.
- #3254 - Pharma Mfg.
- #3253 - Agricultural Mfg.
- #3345 - Electromedical Mfg.
- #5417 - Science Res. & Dev.

\*<https://www.dnb.com/business-directory.html>

# Why Bioscience Industry in New Mexico?

***Bioscience innovation is a catalyst for improving our state's health, productivity, economic diversity, and economic development.***

- 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
- **1:4** - Supports the creation of four times the number of direct jobs through indirect (supply chain) and induced (employee spending) impacts



# Key Metrics

## Growth in Bioscience

### Research Funding, UNM HSC

- 2020 (\$206M)
- 1993 (\$25M)

## Availability of Workforce

### (NM Graduates in Bioscience-Related Fields, 2009 – 2013)

- Natural Sciences (4,271)
- Health Professions, excl. BSN (4,379)
- Engineering/Tech/CS (6,718)
- Business (10,941)

70% of NM bioscience graduates leave the state due to lack of jobs.

## Employment Index Increase, 2001 – 2016

- Bioscience (19% increase)
- Total Private Sector (10% increase)

## Bioscience Leads NM Patents, 2011 – 2015

- Biosciences-related (~ 275)
- Computer/Data science (~ 250)
- Optics (~ 150)
- Electricity (~125)
- Communications (~120)
- Chemicals (~25)

## Bioscience Leads in Salaries

- Bioscience (\$87.4K)
- Engineering (\$85.6K)
- Communication (\$84.1K)
- Mining (\$78.7K)
- Computing (\$74.1K)
- Aerospace (\$71.5K)

# Example of Success

## Background

### ***Terry Dunlay, Founder, President, & CEO***

- 2006 - moving to New Mexico and was referred to STC
- Licensed by STC/UNM
- Inventors: Larry Sklar and Bruce Edwards (UNM HSC)
- 2006 - Worked with STC through Cecchi Venture Lab (first tenant of CVL)

### ***Raised approximately \$20 Million***

- 2007-2010 - \$5 million in 3 rounds. \$1 million in 2007 from Verge & Village Ventures, \$1.5 Million in 2008 from Verge & Village Ventures and \$2.5 million from Prolog Ventures, Verge, and New Mexico Community Capital.
- May 2013 – \$8 million from Arboretum Ventures who led the venture funding round with participation from current backers Prolog Ventures, Verge Fund and New Mexico Community Capital
- July 2015 – \$5.4 million from Arboretum Ventures who led the venture funding round with participation from current backers Prolog Ventures, Verge Fund and New Mexico Community Capital

### ***Sold to Sartorius AG in June 2016 for \$90 million***

- Company currently has 55 employees
- Company will continue to operate in New Mexico

intellicyt



 sartorius

# Commercialization of Bioscience

Since 2004, over 60 new bioscience start-up companies have spun out of the University of New Mexico Health Sciences Center.

Companies focused on drug development, cancer therapies, molecular imaging, medical diagnostics, software development, genetics, and more.





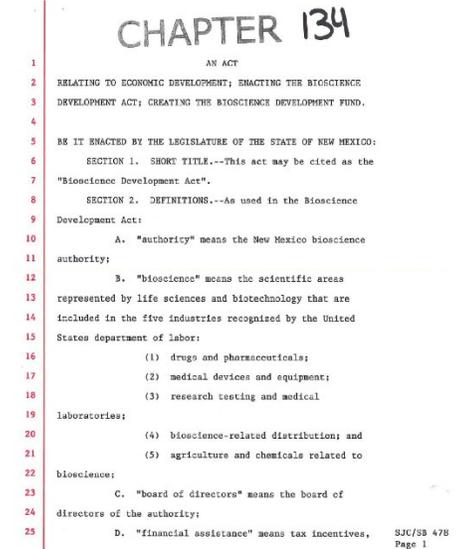
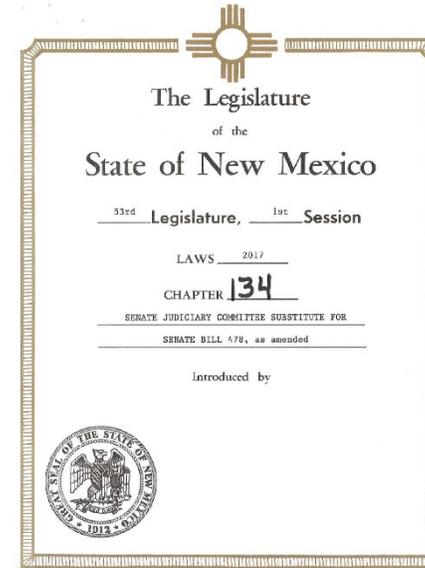
**What is the  
New Mexico  
Bioscience Authority**

# Research Results in Innovation

**GrowBio**

A PUBLIC-PRIVATE COLLABORATION

GrowBio is a public-private collaboration formed to promote a thriving biotechnology industry in New Mexico using economic incentives that nurture startups and encourage the transfer of new inventions and discoveries into commercial applications.



GROWING THE FUTURE

Developing New Mexico's Bioscience Industry

**GrowBio**

A PUBLIC-PRIVATE COLLABORATION

# History of the NM Bioscience Authority (NMBSA)\*

Public/Private working group with consultant identified in bioscience industry as being potential driver of economic growth in New Mexico.

Senate Bill 478, the Bioscience Development Act was passed to create the NM Bioscience Authority



Produced GrowBio Report that reviewed best practices and identified needs in New Mexico to grow bioscience.

Governor Lujan Grisham established four Centers of Excellence which includes the UNM/HSC with & NMBSA



\*NMBSA Reports annually to STTC (fall), Governor’s Office (November), HED (fall)

# NMBSA

## Mission & Vision

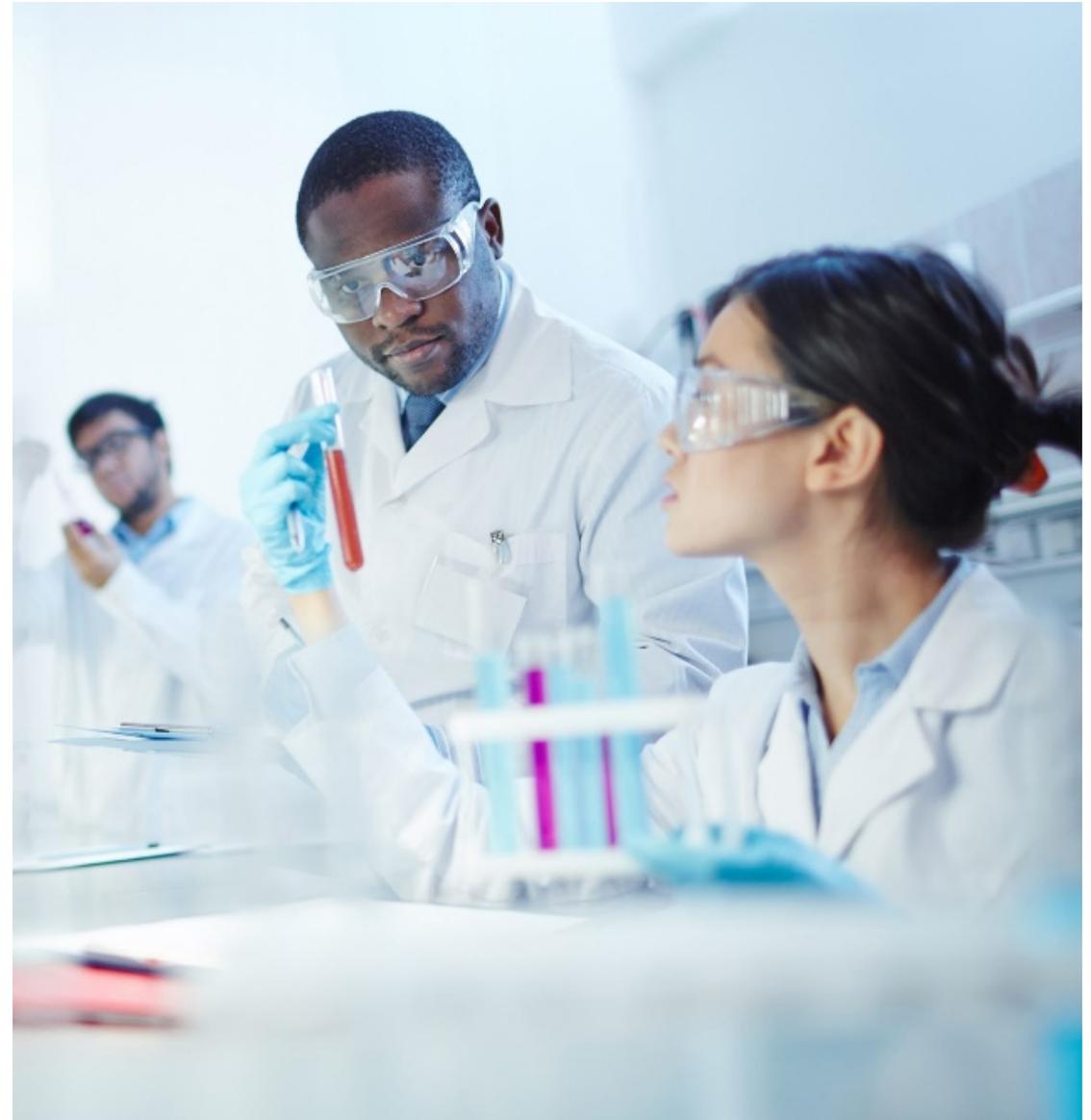
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### Mission

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.

### Vision

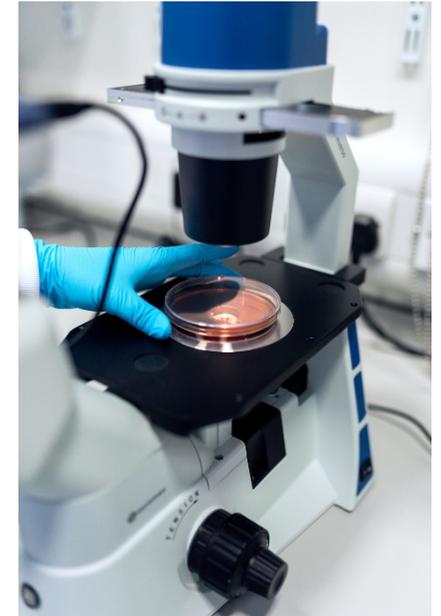
To grow a robust bioscience industry in New Mexico.



# Activities by Statute of NM Bioscience Authority

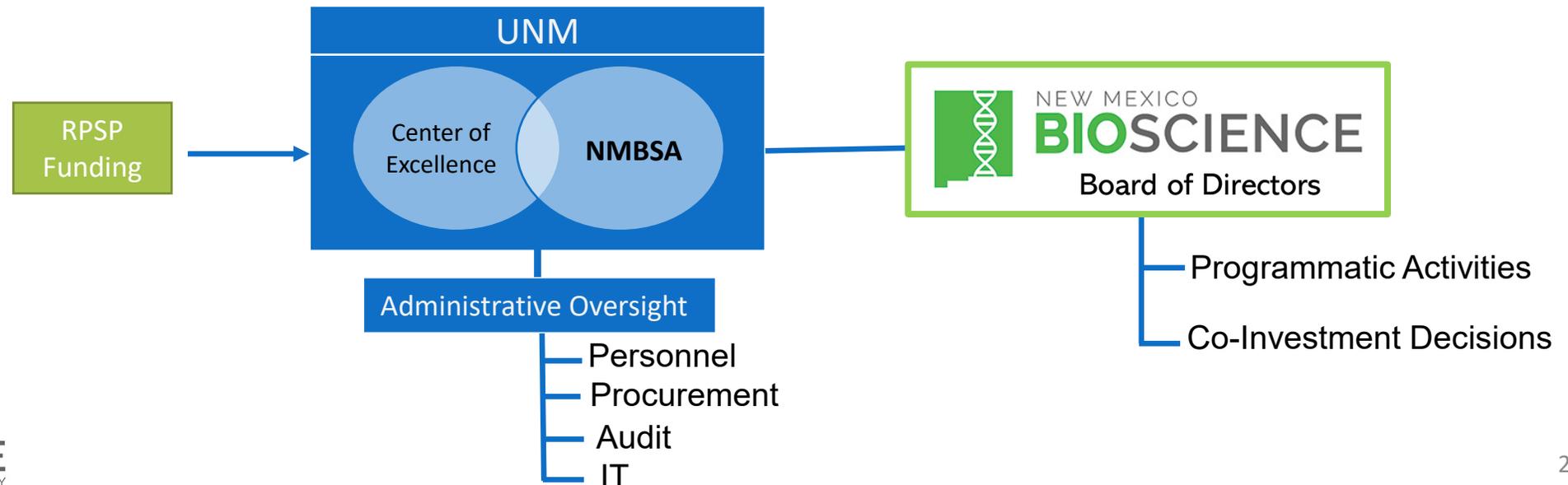
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- **Advise state leadership** on initiatives that may stimulate investment and provide jobs
- **Create programs** to expand bioscience economic opportunities
- Connect New Mexico and representatives of bioscience industries
- **Promote legislation** to grow the bioscience industry
- Produce promotional literature related to explanation and fulfillment of the NMBSA's goals
- Identify science and technology trends and be a clearinghouse for bioscience enterprise issues
- **Co-Investment & Funding**
- Endowment for long-term investment
- **Actively recruit** bioscience businesses to New Mexico



# Organization of NM Bioscience Authority

- 13-person board (appointed by Governor, Speaker of the House, Senate Pro-Tempore, and University Presidents)
- Per the 2017 SB 478 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.



# NM Bioscience Authority Board of Directors



**Dale Dekker, AIA, AICP, Chair**  
Registered Architect and Founder of Dekker/Perich/Sabatini Design Firm



**Sheryl Arvizu, Vice Chair, Board Director**, Pharmaceutical Specialist



**Richard S. Larson, MD, PhD, President**, Executive Vice Chancellor, Vice Chancellor for Research UNM HSC



**Christos Christodolou, PhD, Vice President**, Dean of the School of Engineering at UNM



**Suzanne Quillen, RN, MPA, Secretary**, Vice President of Healthcare Innovation for Ernest Health



**Greg Byrnes, Board Member**, Executive Director at the New Mexico Biotechnology & Biomedical Association



**Jennifer H. Gifford, PhD, Board Member**, Assoc. Professor in Animal Range Sciences Dept. at NMSU



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



**Scott McLaughlin, Board Member**, Executive Director at Spaceport America of New Mexico



**Tanner Schaub, PhD, Board Member**, Director, Research Cores Program, OVPR, NM State University



**Myrriah Tomar, PhD, Board Member**, Director of the Office of Science and Technology for NM EDD

- 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



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

# NM Bioscience Authority Success Stories

## Community Ready Zones are attracting new businesses

- Five businesses have started or relocated to community ready zones certified in Albuquerque since 2019.
- 45 highly skilled employees included



“Without the New Mexico Bioscience Authority, Bright Path Labs would not be in New Mexico.”

**Tony Quinones**

CEO, Bright Path Labs





**What are the  
Current Initiatives  
of the  
NMBSA**

# Community Readiness Program

*The Path to Make New Mexico Bioscience Ready*

## What Community Readiness means for New Mexico?

- Attract Bioscience companies and startups
- Foster Bioscience industry growth
- Help municipalities create innovation zones
- Facilitate Bioscience site selection
- Current sites include Albuquerque, Rio Rancho, Las Cruces, Santa Fe and Clovis

## Community Readiness Rating:



**BRONZE**  
Local governments have identified sites that are served by utilities and have a process in place to assist bioscience businesses.



**GOLD**  
Local governments have identified sites within Opportunity and/or tax advantage location, have expedited development processes, have available suitable buildings, have invested in enhanced transportation and logistics infrastructure and are partnering with universities and colleges to train workforce.



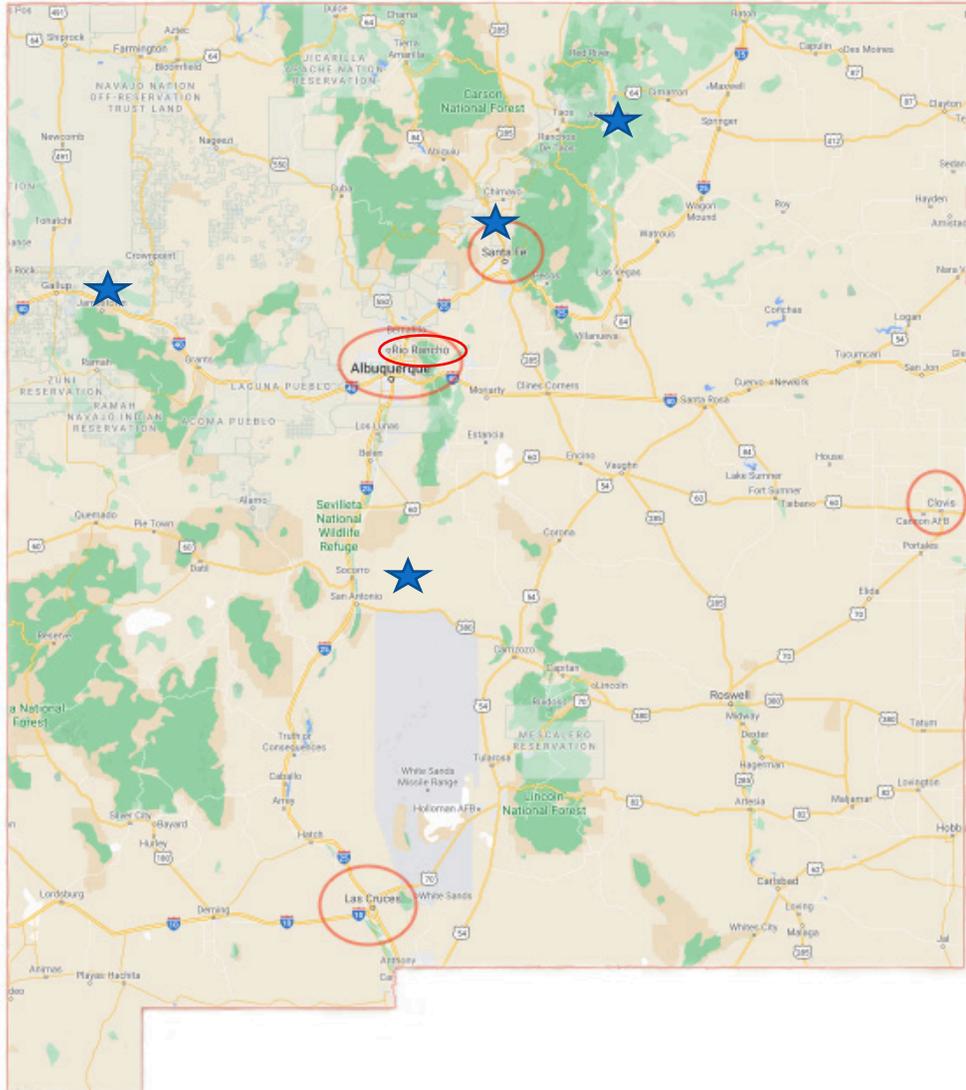
**SILVER**  
Local governments have 'shovel ready' sites, have development incentives and have identified point person to assist bioscience businesses through the process.



**PLATINUM**  
Local governments have an inventory of suitable buildings and sites, sites are pre-permitted for bioscience uses, sites have completed NEPA review, and local governments assist bioscience businesses with identifying funding sources.

# Community Readiness Program

## *Moving Forward*



### Sites Currently Being Certified (circled)

- **Clovis, Santa Fe, Las Cruces**
  - Currently completing certification process
- **Albuquerque - 8 certified sites**
- **Rio Rancho - 1 certified site**

### Community Readiness Program Successes

- 5 bioscience businesses have either started in or moved to Community Ready Zones since they were certified in 2019.

### Next Steps (starred)

- We're in the process of working with other communities, both rural and urban, throughout the state who could benefit from the community readiness certification.
  - Los Alamos, Socorro, Taos, Gallup

Contact Stephanie Tofighi at [stofighi@salud.unm.edu](mailto:stofighi@salud.unm.edu) to begin the process in your community.

# Centralization of State Resources for Bioscience Businesses

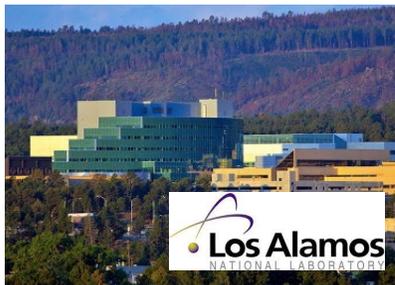
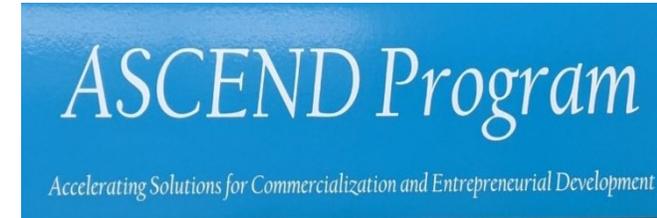
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- NM BSA website was enhanced and now serves as a conduit to investors, entrepreneurs, and inventors to gain awareness of and direction to state resources and economic development incentives.
- Individual support pages will direct these three types of users to resources across the state specific to their needs.



# Business Accelerator Program Partnership

- ASCEND is business accelerator at UNM that is currently federally funded. NMSU is already an ASCEND Hub partner.
- Statewide mission to train university faculty to work effectively with entrepreneurs to start bioscience businesses.
- Focuses on training to write federal grants (e.g. SBIR/STTR) and networking to form entrepreneur-university partnerships.
- The BSA will play the role of expanding ASCEND training, mentoring and workshops to new partners outside the current ASCEND Hub
- New partners may include SNL, LANL, UNM-branch campuses NM Tech; Community colleges (CNM) and others.
- Six NM researchers from UNM, NMSU, and NMT have completed training since April 2021 with three preparing SBIR submissions now.



# Enhance Communication with Stakeholders

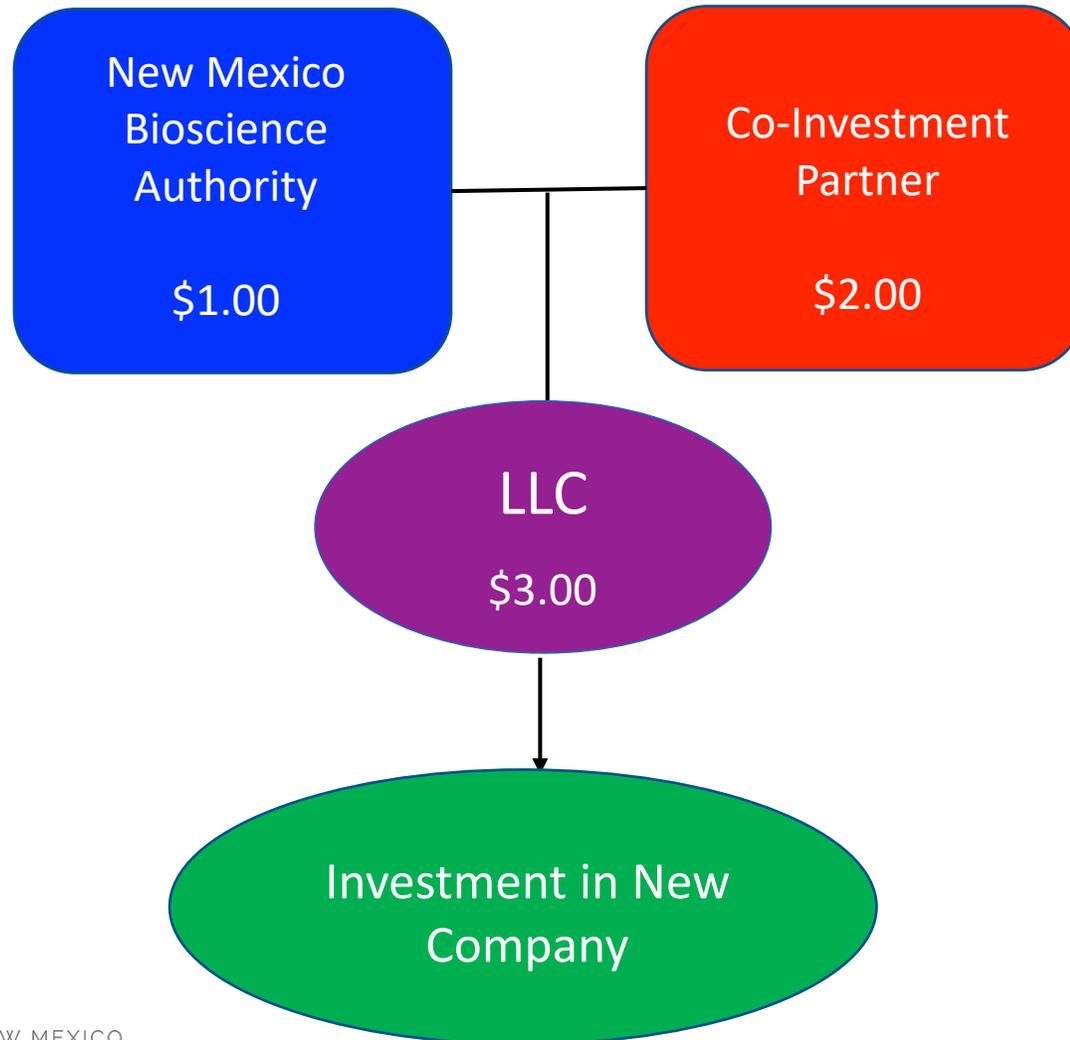
- Track visitor traffic to our recently redesigned website and adjust to users' needs appropriately
- Establish stakeholder listserv to directly share bioscience related information
- Develop NM BSA newsletter to begin bi-annually but transition to quarterly celebrating bioscience innovation and commercialism throughout NM
- Use social media to reach a more inclusive audience
- Seek out opportunities for public presentations





**Growing a  
Biotech Industry  
In  
New Mexico**

# NMBSA Co-Investment Program



## Main Objective

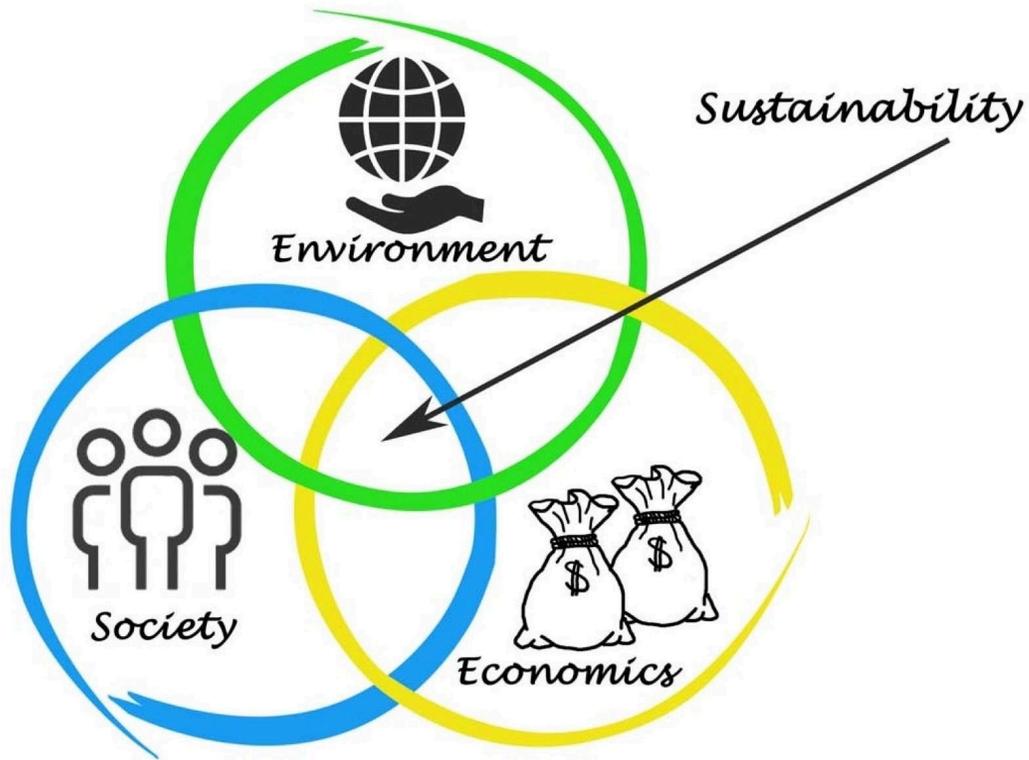
- Create NM Companies & Jobs
- Available to all investors in NM

## Investment Partner Criteria

- **Qualifies to be lead investor**
- Will provide a **2:1 match of funds**
- Has **experience in 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**

# Co-Investment Model is Self-Sustaining

## *Next Steps to Consider*



- **All size municipalities can benefit.**
- More capital is needed, to grow the bioscience industry. The more capital there is, the more activity will occur.
- Need capital across spectrum of economic activity.
- Include Main street businesses to higher tech companies.
- In bioscience space, this includes high tech companies making new drugs or devices, but also light manufacturing or distribution shops.

# \$25M Co-Investment Program Request



Will invest over 5 years



Co-Investment of state and private dollars through LLC 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)



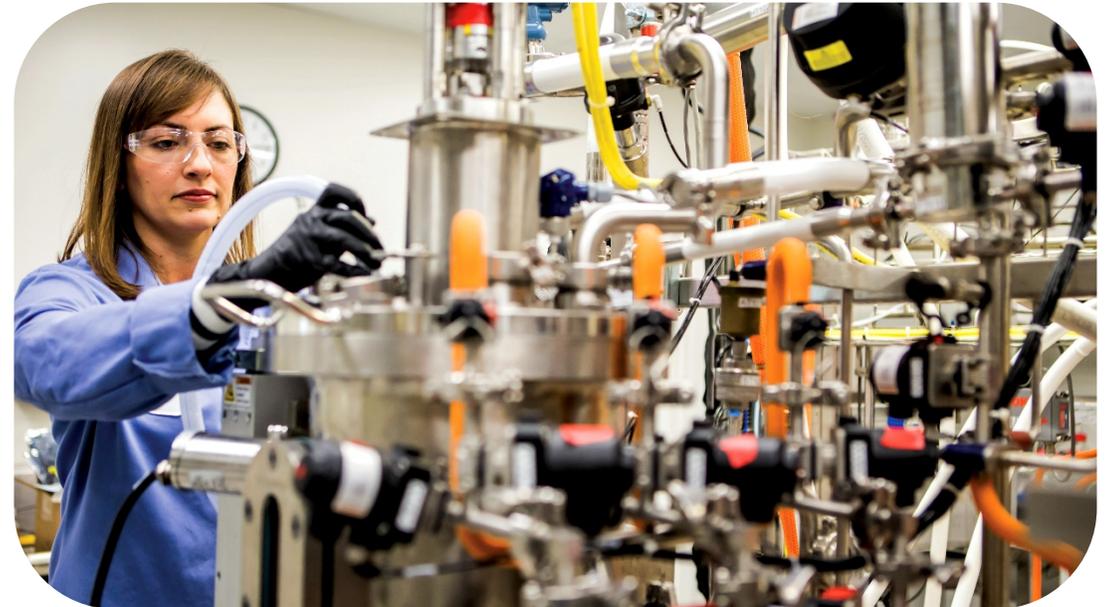
LLC will invest \$100K to \$1.5M per company



If successful, will return funds so program will be self-renewing and sustainable.



Will build economy throughout state.



# Selection of Pilot Program Co-Investment Partners Timeline

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- July 2021 - Issued Request for Proposal (RFP) through UNM Procurement Office per state procurement rules
- September 2021 – Finalists will be asked to present to the BSA Board of Directors.
- October 2021 - Following approved evaluation criteria, the Bioscience Authority Board will select co-investors
- Formation of LLC or limited partnership agreement through contract with co-investment partner that takes equity or equivalent



# Co-Investment Fund Organization

## Roles & Responsibilities of Investment Partner

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- Seasoned investor with at least 5 years experience investing in New Mexico based companies
- Not related to anyone on the NMBSA Board of Directors
- Independently vets prospective bioscience companies to invest in and then presents options to NMBSA BOD to agree on decision as part of the 50/50 governance of the LLC
- Contributes 2-1 match of NMBSA funding to bioscience companies

## Roles & Responsibilities of NM BSA

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- Selects co-investment partner using evaluation criteria approved by UNM Procurement Office following State procurement guidelines
- Enters into a limited partnership or LLC with seasoned investor with equal governance over investment into company to ensure effective oversight of state funding
- Provides \$1 for every \$2 investment partner invests in agreed upon company

# Good for Business = Good for New Mexico

## Return on Investment (ROI) for New Mexicans

- For each bioscience job, four more jobs are spun out because of supply chain and impacts
- For every dollar put in by state of NM funds, there will be a \$2 match by our co-investment partner
- Selection process will be transparent and qualifications based following same protocols as SIC
- Companies supported will include stipulations that they stay in NM once they exit
- Will support all municipalities and counties in NM

## Funding Source for Co-Investment Fund

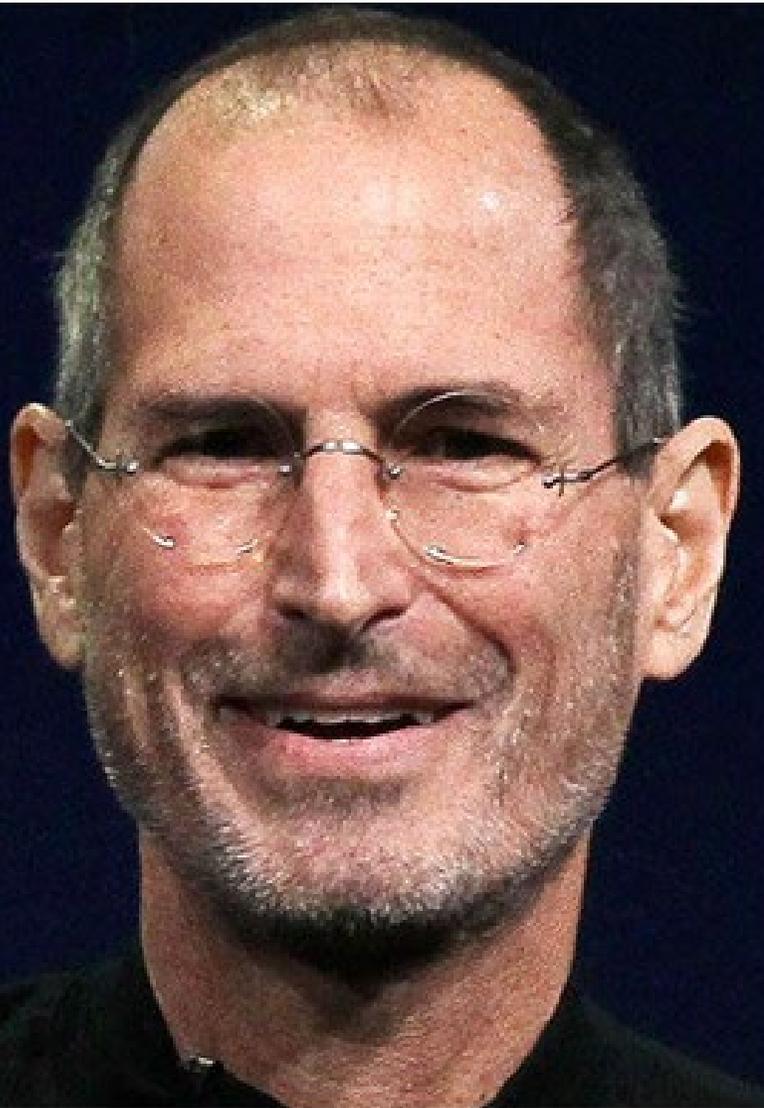
- General Fund funding through the State budget
- Strategic Investment in a growing industry
- Diversify the economy
- Attract more bioscience jobs to NM
- Create a sustainable source of funding
  - Accumulate additional funds through investment company exits and growth

# Next Steps of the NMBSA

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1. Expand Community Readiness Certification Program to identify zones throughout NM that are suitable to host bioscience businesses
2. Develop co-investment LLC partnership(s)
3. Continue to enhance NMBSA website making it more user friendly for inventors, entrepreneurs, and investors
4. Facilitate small business grant training throughout the state
5. Enhance communication – newsletter & social media
6. Identify local agencies involved in economic development or business start ups to engage in the Community Readiness program



I think the biggest innovations of the 21st century will be at the intersection of biology and technology. A new era is beginning.

— *Steve Jobs* —

**AZ QUOTES**

# Questions?

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