



NM Bioscience Authority

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

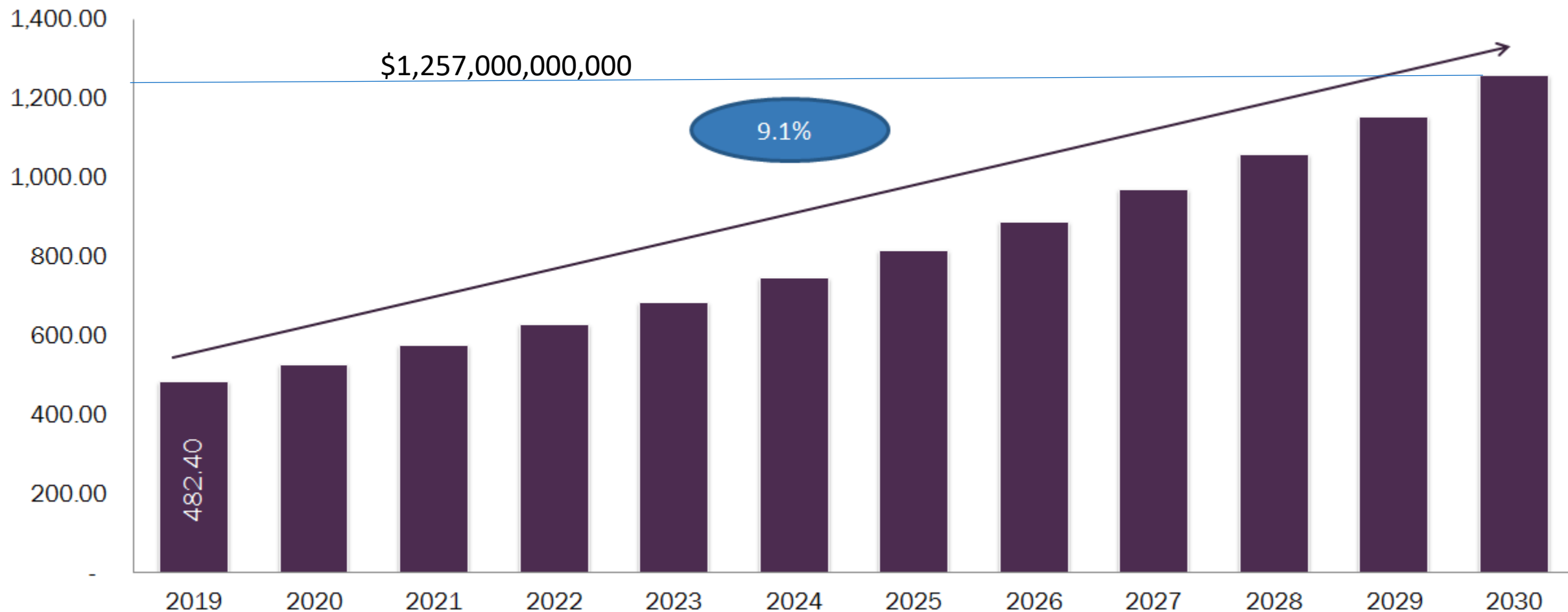
Richard Larson, M.D., Ph.D.
President, NM Bioscience Authority
Executive Vice Chancellor, UNM HSC
Vice Chancellor of Research, UNM HSC

October 26, 2021
STTC Presentation



Why Biosciences...

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



The **Global Biotechnology Market** size is predicted to reach \$1.257 trillion by 2030 with a compound annual growth rate (CAGR) of 9.1% from 2020-2030.

Federal Initiatives to Support Research, Infrastructure and Economic Growth in New Mexico



Innovation/R&D



Resilient Supply Chains



21st Century Infrastructure



New Mexico Economic Development Clusters

Aerospace & Defense



Biosciences

Sustainable Ag

Cyber Security

Global Trade

Advanced Manufacturing

RE/Green Energy

Innovation

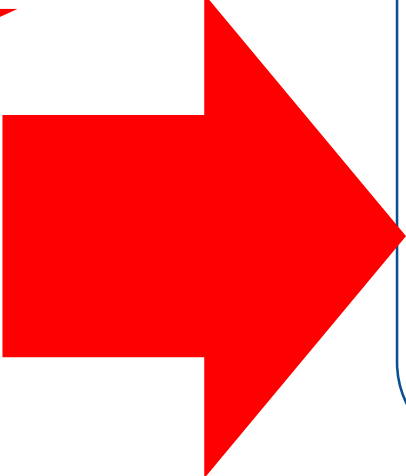
10 KEY TECHNOLOGIES

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

What is Bioscience?

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**

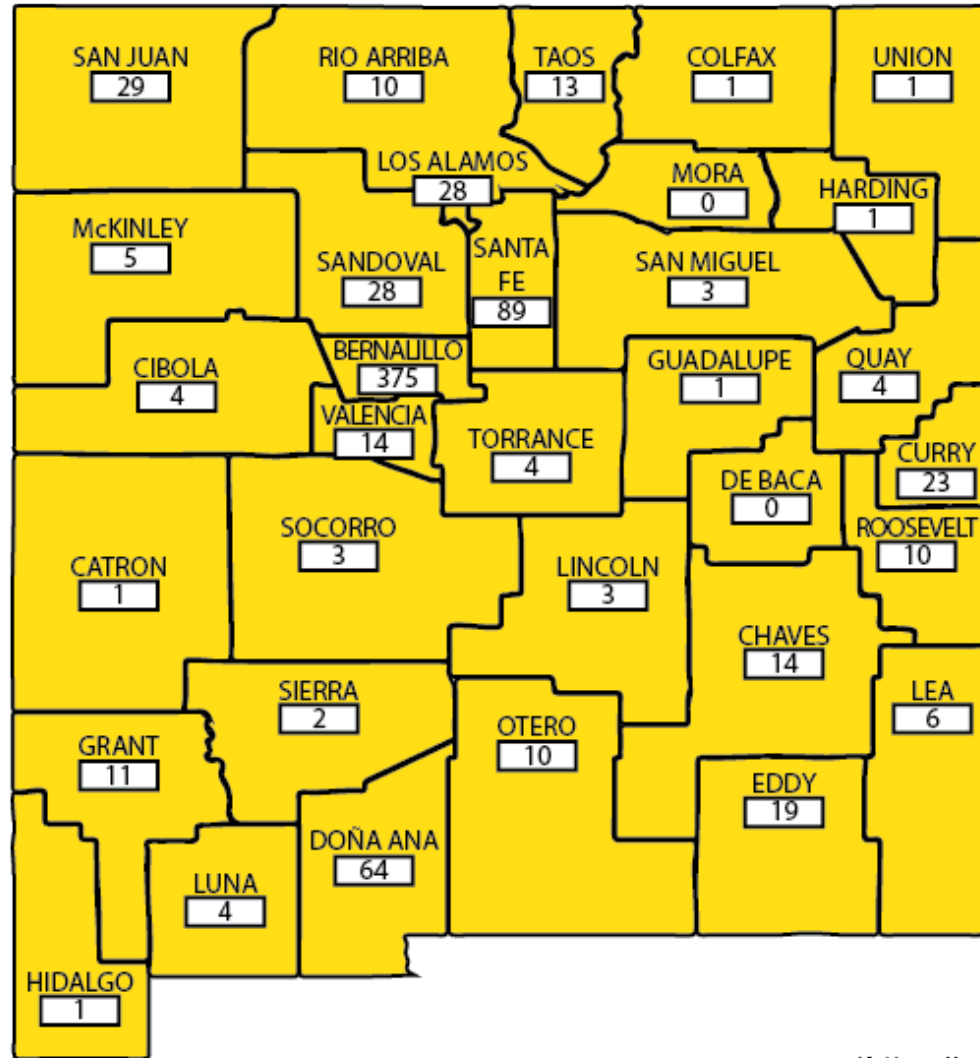
Why Bioscience Industry in New Mexico?

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

- High paying, green jobs
- University research and patents
- Workforce Generation
- Existing companies & entrepreneurs
- Some Financing



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 is Good Industry to Grow in NM

Growth in Bioscience Research Funding, UNM HSC¹

- 2021 (\$212M)
- 2004 (<\$90M)

Availability of Workforce (NM Graduates in Bioscience-Related Fields, 2011 – 2020)²

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

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

Employment Index Increase, 2020 – 2030⁴

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

Bioscience Leads NM Patents, 2011 – 2020³

- Biosciences-related (~ 325)
- Computer/Data science (~ 275)
- Optics (~ 175)
- Electricity (~140)
- Communications (~125)
- Chemicals (~40)

NM is 7th in nation in bioscience patents per capita

Bioscience Leads in 2021 NM Salaries⁴

- Bioscience (\$98.7K)
- Engineering (\$95.2K)
- Aerospace (\$90.1K)
- Mining (\$82.9K)
- Computing (\$74.2K)
- Communication (\$56.2K)

¹UNM HSC Annual Report

²NM HED Annual Report

³USPTO, Google Patents

⁴U.S. Bureau of Labor Statistics

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)

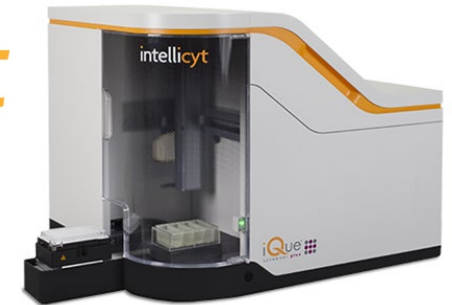
Raised approximately \$20 Million

- 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 Science Center

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





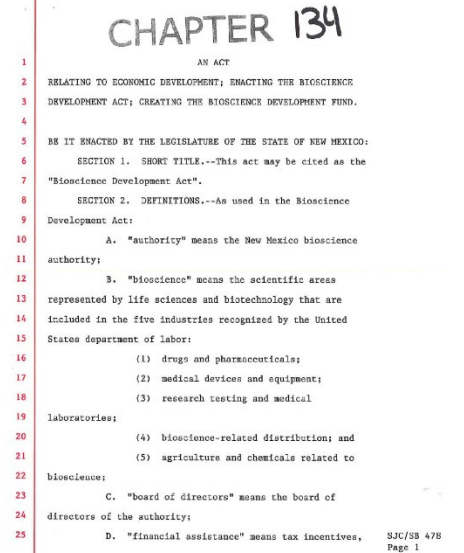
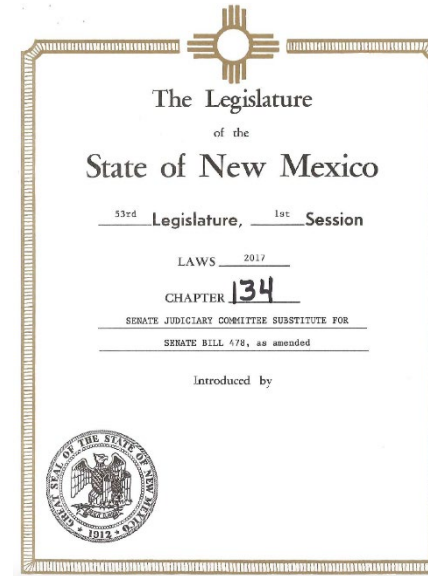
**Why NM
Biosciences
Authority?**

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)*

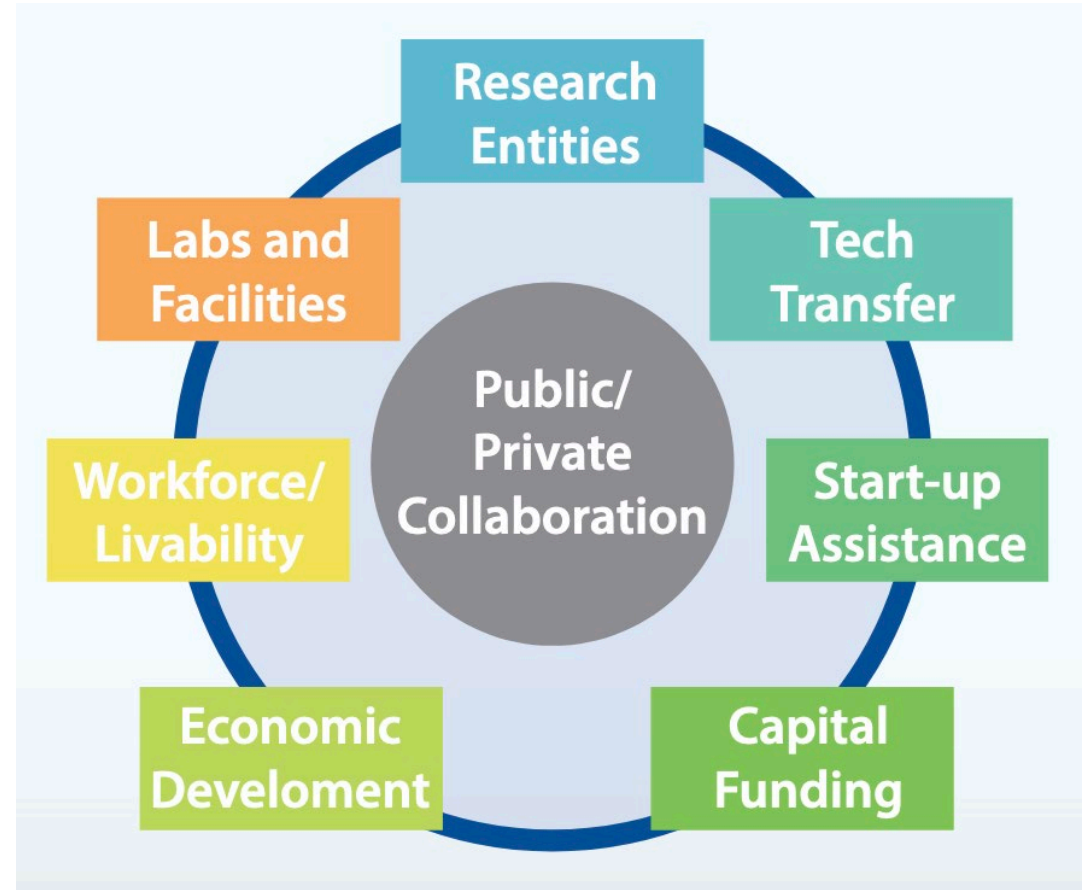
Public/Private working group with consultant identified in bioscience industry as being potential driver of economic growth in New Mexico.

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

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.

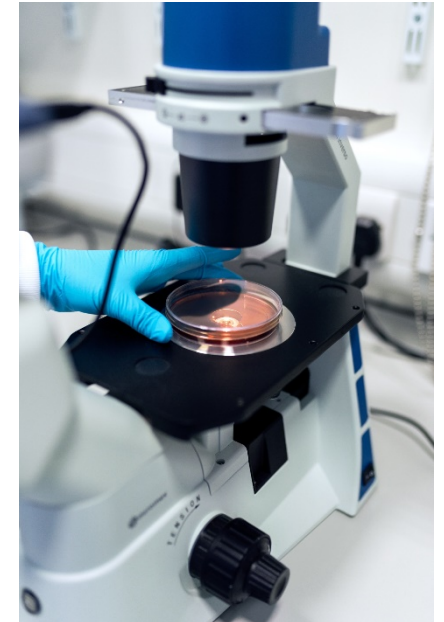
Vision

To grow a robust bioscience industry in New Mexico.



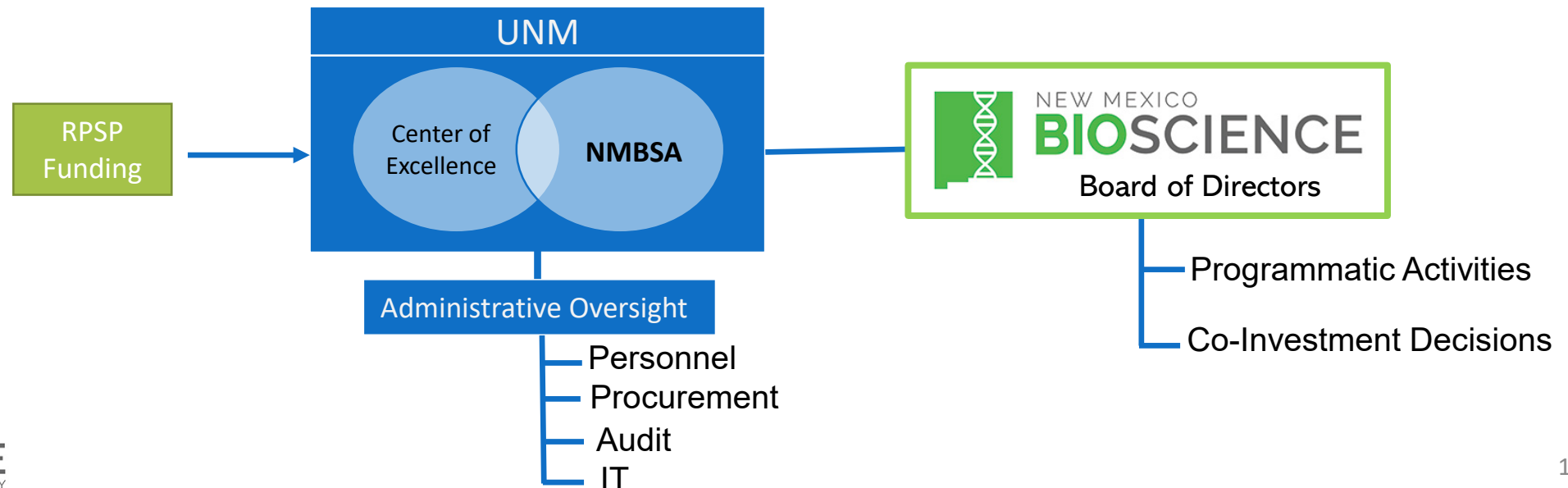
Activities by Statute of NM Bioscience Authority

- **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.

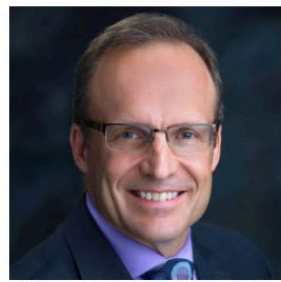




Dale Dekker, AIA, AICP, Chair
Registered Architect and Founder of
Dekker/Perich/Sabatini Design Firm



Sheryl Arvizu, Vice Chair, Board
Director, Pharmaceutical Specialist



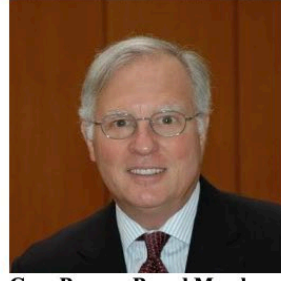
Richard S. Larson, MD, PhD,
President, Executive Vice Chancellor,
Vice Chancellor for Research UNM HSC



**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



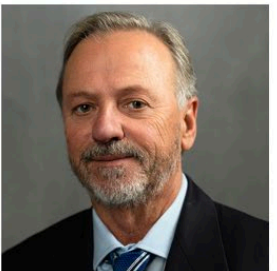
**Jennifer H. Gifford, PhD, Board
Member**, Assoc. Professor in Animal
Range Sciences Dept. at NMSU



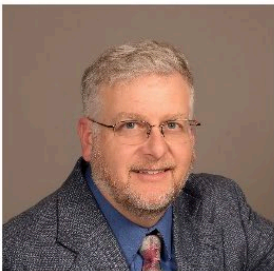
Alicia Keyes, Board Member,
Cabinet Secretary, New Mexico
Economic Development



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



Paul Laur, Board Member,
Chief Executive Officer,
Spartina Biotechnologies



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



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

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



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.



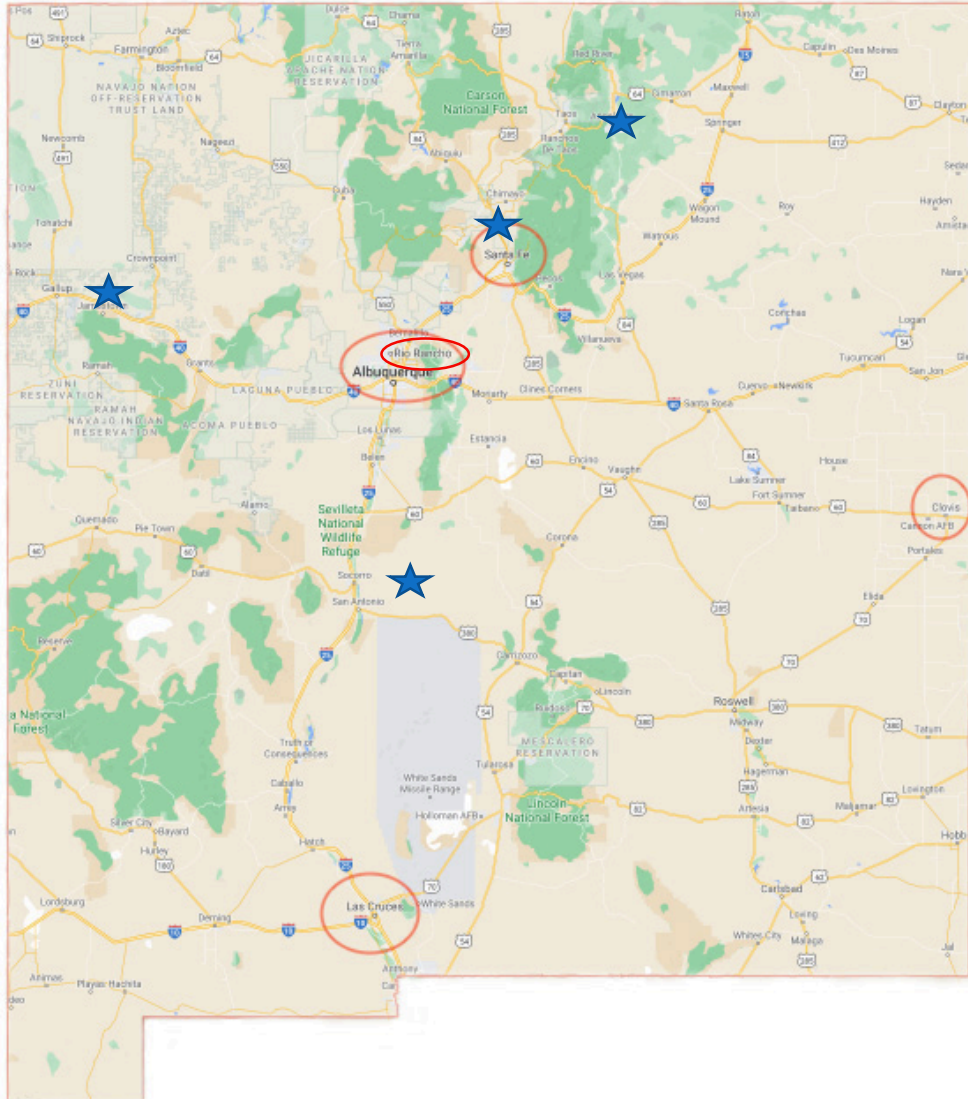
SILVER
Local governments have 'shovel ready' sites, have development incentives and have identified point person to assist bioscience businesses through the process.



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 to begin the process in your community.

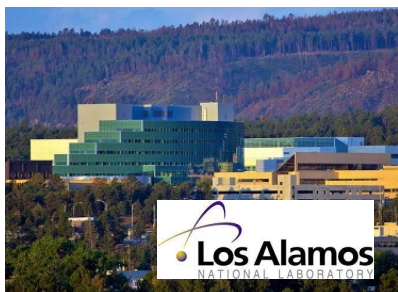
Centralization of State Resources for Bioscience Businesses

- 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.



NM Bioscience Authority's SBIR/STTR Bioscience Business Accelerator

- The BSA's bioscience business accelerator will expand a currently federally funded UNM based bioscience business accelerator primarily geared toward the commercialization of biomedical innovation.
 - Six NM researchers from UNM, NMSU, and NMT have completed training since April 2021 with three preparing SBIR submissions now.
- BSA program will include SBIR/STTR grant training, mentoring, workshops, and network facilitation to support the commercialization of all bioscience innovation
 - Statewide mission to train university and research institution faculty and staff to work effectively with entrepreneurs to start bioscience businesses.
 - Focus will be on training to write federal grants (e.g., SBIR/STTR) and networking to form entrepreneur-university partnerships.



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



Support Bioscience Innovation & Training Events

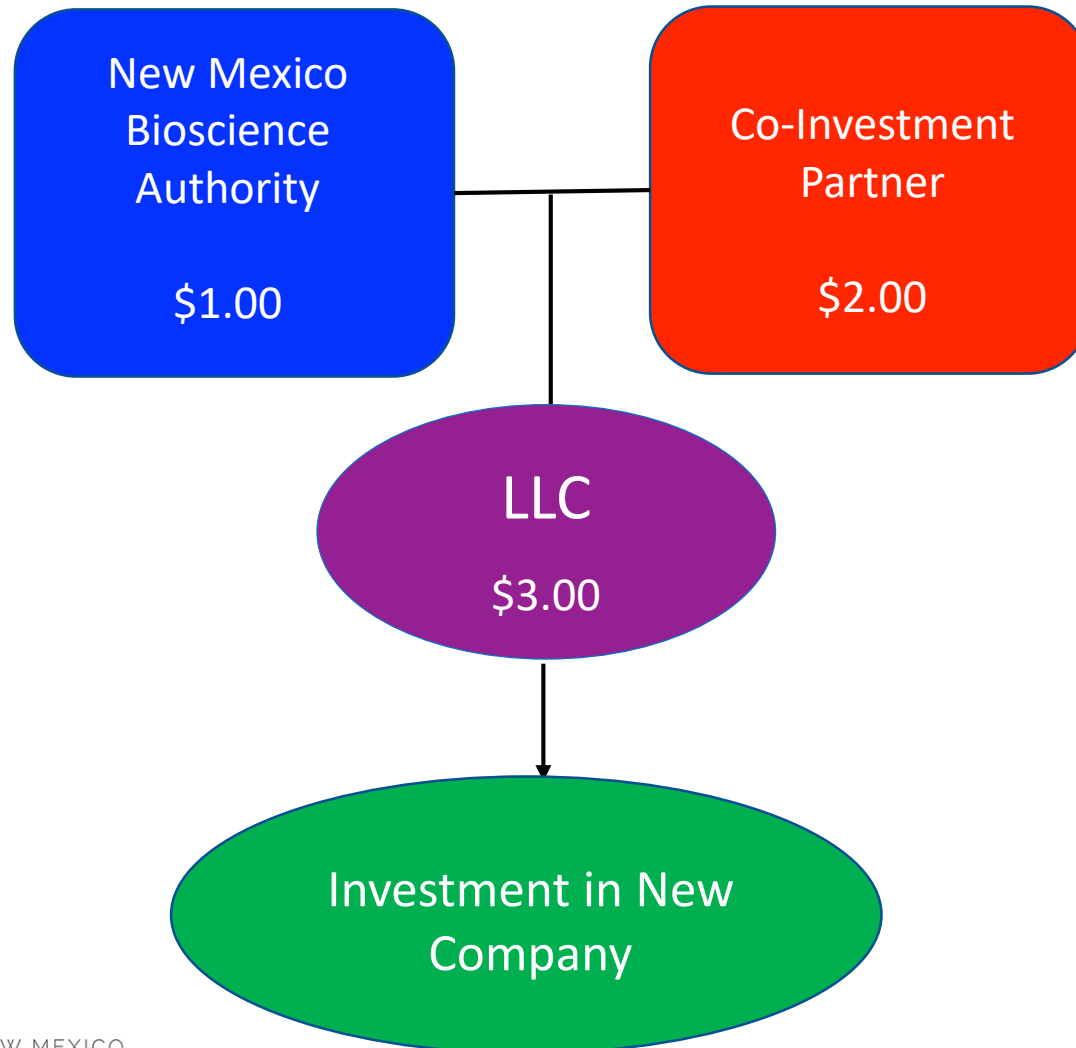


- Annual UNM HSC Clinical & Translational Science Center (CTSC) BioVenture Partnership Event where inventors practice pitching to investors
- Bi-annual CTSC Health Hackathon teams clinicians, engineers, entrepreneurs, programmers, scientists and students working to seek solutions to pressing health care challenges
- Annual UNM Biodesign Course for graduate students to develop commercially viable biomedical technology solutions to existing barriers and needs in health care



**Growing a
Biotech Industry
In
New Mexico**

NMBSA Co-Investment Program



Main Objective

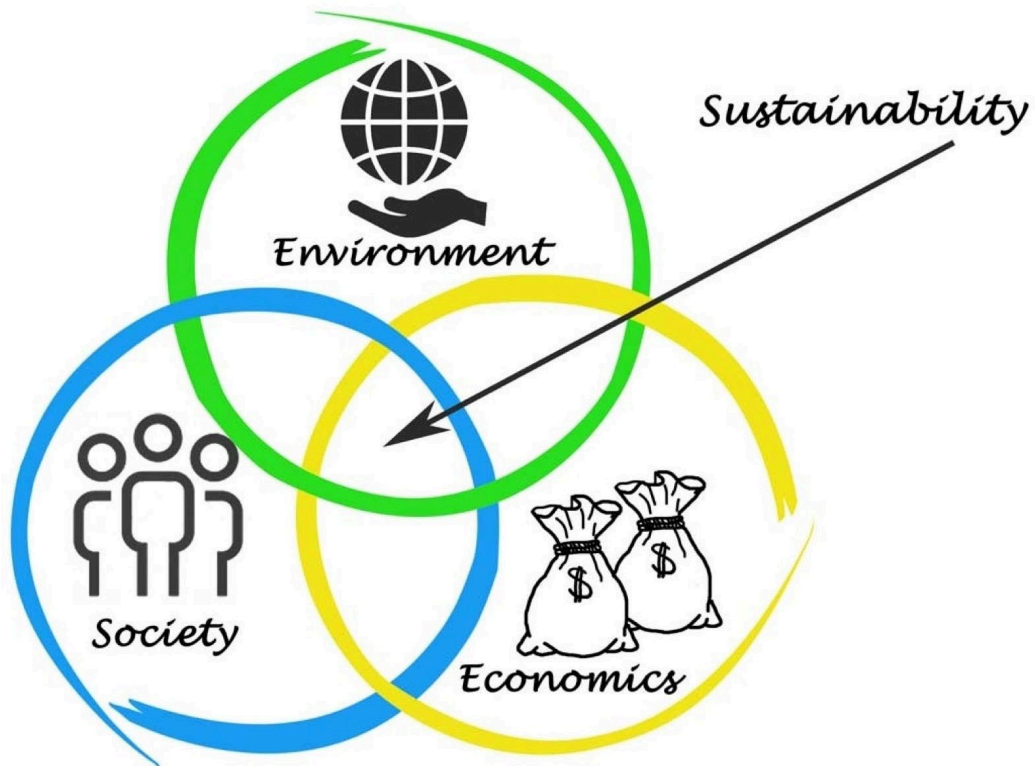
- Create NM Companies & Jobs
- Available to all investors in NM

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

- July 2021 - Issued Request for Proposal through UNM Procurement Office per state rules
- September 2021 – NMBSA Co-Investment Task Force reviewed applications through UNM Procurement system
- October 2021 - Following approved evaluation criteria, Task Force selected two investment firms they will recommend to the full Board of Directors
- Formation of LLCs or limited partnership agreements through contract with co-investment partners that takes equity or equivalent
- Selection of bioscience businesses to invest in following vetting by investment firms and evaluation by NMBSA BOD using Co-Investment Task Force created universal criteria



Co-Investment Fund Organization

Roles & Responsibilities of Investment Partner

- 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

- 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

\$200K Bioscience Business Accelerator Program Request

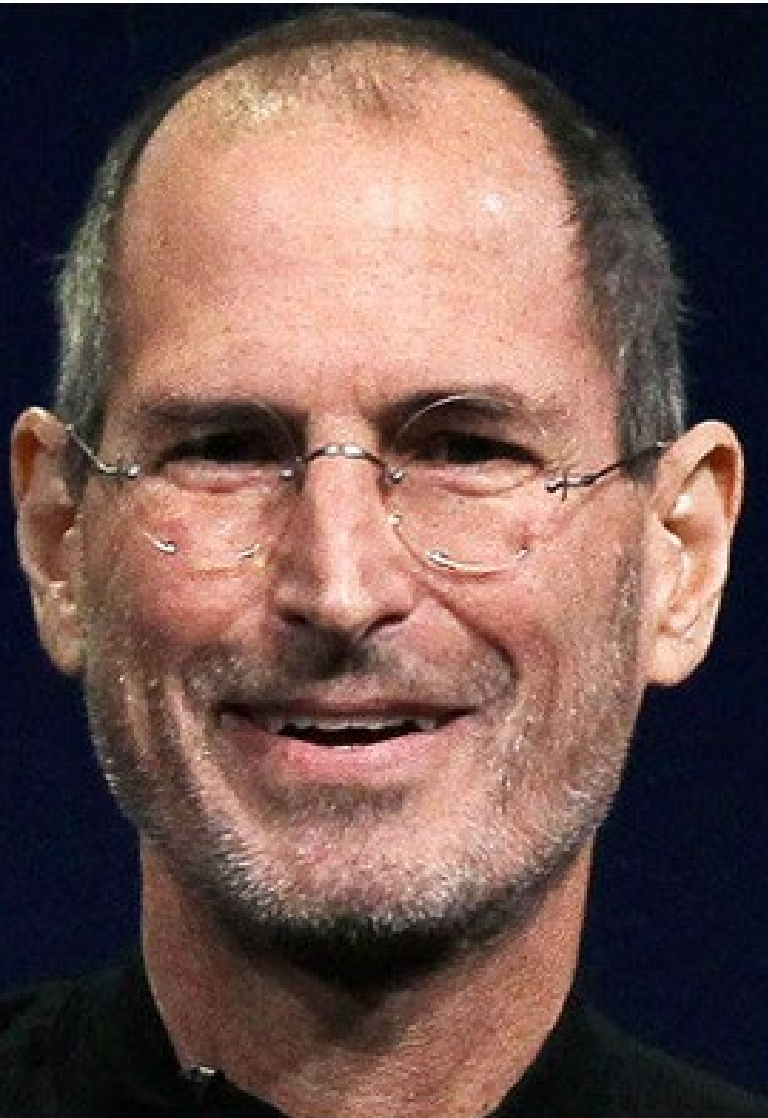
- Hire **SBIR/STTR Grant Training & Network Facilitator** to train bioscience inventors and small business owners throughout the state to submit funding requests to the federal SBIR/STTR grant programs and to catalyze networking between New Mexico based bioscience entrepreneurs and inventors.
- Costs will support annual salary and fringe of personnel as well as relevant supplies to manage the events.



Next Steps of the NMBSA



1. Expand **Community Readiness Certification Program** to identify zones throughout NM that are suitable to host bioscience businesses
2. Develop **Co-Investment LLC partnerships** with selected firms and invest in businesses that meet NMBSA evaluation criteria
3. Launch the new **NMBSA SBIR/STTR Bioscience Business Accelerator Program** to facilitate small business grant training throughout the state and networking events between university/National lab researchers and small businesses
4. Continue to enhance **NMBSA website** making it more user friendly for inventors, entrepreneurs, and investors
5. Enhance communication – **newsletter & social media**



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/>