



# PERSPECTIVES 2023 ANNUAL REPORT



**\$85.1M**  
TECHNICAL ASSISTANCE PROVIDED BY LABS

**12,199**  
JOBS CREATED  
AND RETAINED

**3,340**  
BUSINESSES ASSISTED

**33**  
NEW MEXICO  
COUNTIES SUPPORTED

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**On the cover:**

Brian Mego, Dylan Mego, Anna Francis, and Ryan Mego of the Francis Ranch with Mike Lisk of Remote Well Solutions standing by a fully automated, solar-powered RWS Water Distribution Pumping Plant.

Read more about Remote Well Solutions, the Honorable Speaker Ben Luján Award winner, on pages 18 and 36.



“NMSBA is a one-of-a-kind opportunity for businesses throughout the state to tap into the knowledge and expertise of our federal research laboratories. Since its inception, the initiative has assisted over 3,000 businesses in all 33 New Mexico counties, boosting job creation in areas as diverse as engineering, aerospace, agriculture, and printing.”

**Mark Roper**

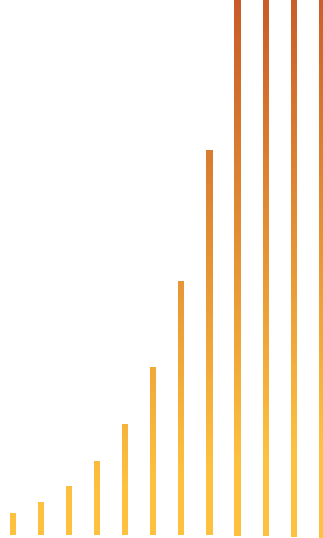
Acting Cabinet Secretary  
Economic Development Department  
State of New Mexico



“Once again, this year’s NMSBA annual report showcases the incredible innovation and growth potential that comes from our national laboratories and New Mexico businesses working together. NMSBA is key to the success of so many valuable growth opportunities across our state.”

**Stephanie Schardin Clarke**

Cabinet Secretary  
Taxation and Revenue Department  
State of New Mexico



Since 2000, the NMSBA Program has helped 12,199 jobs to be created and retained across the state's 33 counties.



## DEAR GOVERNOR LUJAN GRISHAM AND NEW MEXICO STATE LEGISLATORS,

We are pleased to present the 2023 Annual Report for the New Mexico Small Business Assistance Program. This report highlights a few of the hundreds of successful projects from 2023, and provides metrics for the performance of NMSBA for the past year and since its inception in 2000.

During 2023, a total of 241 small New Mexico businesses participated in NMSBA. Thanks to the Laboratory Partnership with Small Business Tax Credit Act, the State of New Mexico, along with Los Alamos National Laboratory and Sandia National Laboratories, invested \$4.49 million of national laboratory expertise and resources to help small businesses in 21 counties overcome technical challenges and grow.

The success stories in this report demonstrate the impact NMSBA has on small businesses from a wide range of industries across the state. Here are a few examples from some of the featured success stories:

- After improving its user interface for various critical infrastructure applications, a company won a \$1.13 million contract with the U.S. Navy, as well as receiving grants and funding from other sources. They also hired three employees.
- A comparison of groundbreaking ultrasonic filtration and conventional centrifugal methods has helped a group of New Mexico breweries evaluate the new technology's effectiveness on particle removal, taste, and increasing shelf life. Early results are promising.
- Access to wind tunnel testing helped a company enhance its wind turbine design, greatly increasing energy output. With their validated technology, they have entered talks with the Morongo Tribe, Los Angeles Department of Water of Power, and City of Lancaster.

Remote Well Solutions received the Honorable Speaker Ben Luján Award for Small Business Excellence for demonstrating the most economic impact. The company will be hiring more employees as its patented, fully automated, solar-powered water systems for livestock is being deployed on Navajo tribal ranches. Over \$25 million has been allocated for these systems which transform the lives of ranchers in remote areas by increasing the productivity of their land as inefficient windmills are replaced and the need to haul water is ended.

For over 20 years, NMSBA has helped New Mexico's small businesses create jobs, increase revenues, decrease operating costs, and attract new funding opportunities. Since 2000, the two national laboratories have provided \$85.1 million in technical assistance to 3,340 businesses, enabling 12,199 jobs to be created and retained across the state's 33 counties.

Your continued support of NMSBA, which promotes collaboration between our national laboratories and small business community, leads to economic development throughout our great state. Thank you!

Sincerely,

**Candice Siebenthal**  
Los Alamos National Laboratory

**David Kistin**  
Sandia National Laboratories

# PROGRAM INFORMATION

## OVERVIEW

During 2023, NMSBA helped 241 small businesses across the state reach business goals, develop their products for commercial use, and increase profitability. NMSBA makes a statewide impact by:

- Providing New Mexico small businesses access to cutting-edge technology
- Increasing New Mexico small businesses' technical sophistication and capabilities
- Sharing knowledge and resources between laboratory personnel and small businesses to address issues and develop real-world applications

In 2000, the New Mexico Legislature created the Laboratory Partnership with Small Business Tax Credit Act for the purpose of "bringing the technology and expertise of the national laboratories to small businesses in New Mexico to promote economic development in the state, with an emphasis on rural areas." As a result, Sandia National Laboratories established the New Mexico Small Business Assistance Program to provide technical support to small businesses throughout the state. Los Alamos National Laboratory began participating in NMSBA in 2007. Jointly, the labs are committed to solving small businesses' critical challenges with national laboratory expertise and resources; influencing New Mexico business development by building capacity, capabilities, and competencies; and acting as an advocate for small businesses through an entrepreneurial culture.

While each company utilizes NMSBA in a different way, all use it as a means to maintain or grow their business. NMSBA services are provided at no cost to participating small businesses in the form of lab staff hours valued at up to \$40,000 per calendar year for businesses located in rural counties and \$20,000 for businesses located in urban counties (Bernalillo and Santa Fe Counties). The total amount of assistance is capped at \$2.4 million annually for each laboratory. NMSBA may not provide assistance that is available in the private sector, and no equipment or cash can be given to a participating company.

## FUTURE DIRECTION

In 2023, New Mexico's businesses leveraged NMSBA to access Los Alamos and Sandia national laboratories' capabilities and expertise. NMSBA helps businesses tackle the hardest challenges, whatever their stage of development. As a result of work with NMSBA, businesses gained customers, entered new markets, received investment, and created new jobs. In 2024, the NMSBA Program will emphasize serving rural New Mexican businesses and accelerating the development of New Mexico's target industries. The program will continue to support the state's growing technology industries and networks to stimulate start-ups, accelerate business growth, and address regional community-led development challenges.

# TYPES OF SMALL BUSINESS ASSISTANCE

## INDIVIDUAL PROJECTS

Individual NMSBA projects involve a single New Mexico for-profit small business. Projects address business-specific challenges that can be solved with national laboratory expertise and resources. Technical assistance challenges are wide ranging; however, the majority include testing, design consultation, and access to special equipment or facilities. Requests for individual projects are accepted year-round until funding is exhausted.

## LEVERAGED PROJECTS

Leveraged NMSBA projects allow a group of small businesses that share technical challenges to collectively request assistance. Leveraged projects address issues that are too large or complex to solve through an individual project. Proposals for projects are reviewed semi-annually by the NMSBA Advisory Council.

## CONTRACT PROJECTS

Legislation allows NMSBA to contract with entities that have the capability to provide small business assistance services not available in the private sector. For the benefit of New Mexico's small businesses, NMSBA has contracts for specific services with the New Mexico Manufacturing Extension Partnership and the state's three research universities.



## CONTRACT PARTNERS

The **New Mexico Manufacturing Extension Partnership** provides training and assessments in the areas of quality and lean manufacturing principles.

The **Arrowhead Center** at New Mexico State University evaluates small business capabilities and technologies using subject matter experts throughout the university.

The **New Mexico Tech Business and Technology Management Program** interfaces with a variety of disciplines taught at the university to help accurately assess the current competitive position of small business technologies.

The **University of New Mexico Management of Technology Program** at the Anderson School of Management evaluates the commercial potential of small business technologies and identifies commercialization challenges and pathways.

The **University of New Mexico School of Engineering** addresses technical challenges faced by small businesses in computer science and chemical, biological, electrical, computer, civil, nuclear, and mechanical engineering.

BERNALILLO  
SANTA FE  
TAOS COUNTIES  
SANDOVAL



Bert Boyce of Santa Fe Brewing standing in front of the centrifuge currently used for beer clarification.



# ASSESSING THE IMPACT OF ULTRASONIC FILTRATION ON NEW MEXICO BEER QUALITY LEVERAGED PROJECT



**“It is a privilege to work with an institution as distinguished as Los Alamos on such a groundbreaking project and this would never have been possible without funding and organization from NMSBA.”**

## **Bert Boyce**

Brewmaster  
Santa Fe Brewing Company Inc.

Santa Fe Brewing Company has been at the forefront of New Mexico's craft beer scene since its founding in 1988, prioritizing quality and innovation from the start. In this project, Santa Fe Brewing Company collaborated with Beer Creek Brewing Company, Ex Novo Brewing Company, La Cumbre Brewing Company, and Taos Mesa Brewing to lead a leveraged project that tapped into local filtration and chemical expertise provided by the NMSBA Program. Supported by Jim Coons and Brett Blackwell from Los Alamos National Laboratory, the project evaluated the effect of particle removal technologies on the composition of seven select beers produced by the participating brewers.

The project compared the effectiveness of ultrasonic filtration, a groundbreaking technology developed by Coons and his team, with conventional centrifugation.

Ultrasonic filtration traps quality-threatening particles from unclarified beer using silent ultrasonic waves, much like traditional filtration, only without the membrane. Unclarified beer continuously flows up into a standing wave in the vertically oriented chamber, causing particles to aggregate and quickly settle. Concentrated particles are removed from the bottom of the chamber, while clarified beer flows from the top.

In the beer tests, ultrasonic filtration effectively removed large particles like yeast that could alter flavor and reduce the beer's shelf life, while leaving behind more of the smaller, flavor-building particles than the centrifuge method.

While ongoing, the project's early success signifies a bright future for New Mexico's breweries thanks to their dedication to innovation and support from NMSBA.

Meet the  
Principal  
Investigator

## **Jim Coons**

Los Alamos  
National  
Laboratory

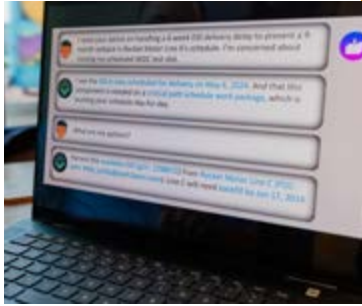




John Hernandez of Dash2 Labs working at Q Station—a co-working space which enables networking between small deep-tech firms, government, and academia.

BERNALILLO COUNTY

# DASH2 LABS



“Collaborating with UNM via the NMSBA Program enabled Dash2 Labs to streamline industry evaluations and fine-tune technical requirements, which is crucial for small firms yet often time consuming and resource intensive.”

**John Hernandez**  
CEO  
Dash2 Labs Inc.

Dash2 Labs developed DASH, a secure AI-based software platform that streamlines operational decision-making. The platform offers a simple-to-use text-based interface that empowers workforces with centralized and real-time access to enterprise information, reduces institutional knowledge loss, and solves complex operational problems on demand, saving workforces 30% of their time.

Dash2 Labs needed more resources to perform an efficient industry assessment for DASH applications. The company planned to use this information to refine technical requirements further and effectively target specific industry niches. So they sought assistance from NMSBA, which connected them with Steve Walsh, a renowned professor and project developer at the University of New Mexico.

Dash2 Labs tapped into UNM’s resources, engaging students and researchers to tackle complex challenges in technology commercialization. This collaboration provided real-world examples for students, fostering invaluable learning experiences.

Walsh and a group of students helped Dash2 Labs leverage their technological strengths to identify emerging trends and increase customer reach, resulting in improved products. They also crafted a clear description of Dash2 Labs’ technology, analyzing its benefits and aligning it with market demands, which served as a foundation for enhancing product design.

The collaboration also resulted in tangible outcomes, including hiring two new employees, signaling the company’s expansion and success. As Dash2 Labs continues to grow, it stands at the forefront of small business entrepreneurship and is poised to redefine the innovation landscape.

Meet the  
Principal  
Investigator

**Steve Walsh**  
University of  
New Mexico





The Emerging Technology Ventures team is standing by their autonomous air and ground platforms with edge analytics to inspect critical assets.

# EMERGING TECHNOLOGIES VENTURES



**“The NMSBA Program has been an essential element in supporting our company’s product growth and ability to enter new markets including Defense and Aerospace.”**

## **Cliff Hudson**

CEO  
Emerging Technology Ventures Inc.

Growing populations put a tremendous strain on infrastructure. Critical infrastructure maintenance involves preserving reliable and safe essential systems and facilities vital to society and the economy.

Emerging Technology Ventures specializes in the research, design, development, integration, and sustainability of advanced autonomous data-driven services, ensuring cutting-edge solutions for their clients. A major area of focus is critical infrastructure maintenance.

Emerging Technology Ventures partnered with Sandia National Laboratories on a project through NMSBA to improve its web-based user interface and user experience design for assessing off-nominal events in various critical infrastructure applications. Under the guidance of Sandia Engineer Ashley Mayle, the team utilized a multifaceted approach to improve user experiences and simplify data visualization.

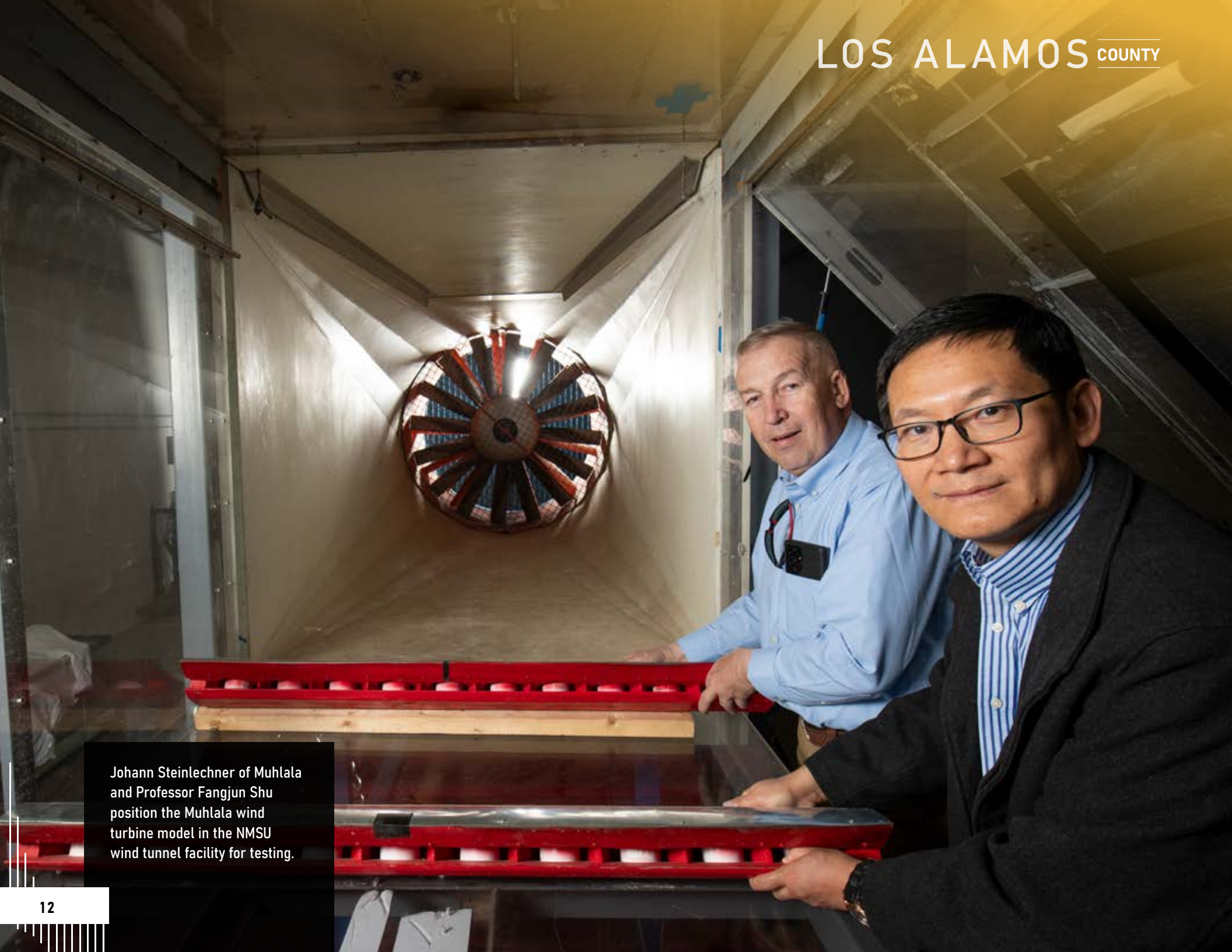
Mayle analyzed data from Internet of Things/IoT sensors and Autodesk models that Emerging Technology Ventures provided. The objective of the analysis was to find effective ways to integrate and present this data within Autodesk Construction Cloud. Mayle then provided consultancy services to refine the Application Programming Interface, or API, for the cloud-based user interface in Autodesk Construction Cloud. After completing the initial tasks, Emerging Technology Ventures was consulted for the UI design based on the insights gathered.

The project’s impact and results include selection for a \$1.3 million contract with the U.S. Navy, receiving a \$7,500 STEP Grant from the New Mexico International Trade Office, securing \$20,000 from the New Mexico Manufacturing Extension Partnership for Cybersecurity Maturity Model certification, and hiring three new employees.

Meet the  
Principal  
Investigator

**Ashley Mayle**  
Sandia National  
Laboratories





Johann Steinlechner of Muhlala and Professor Fangjun Shu position the Muhlala wind turbine model in the NMSU wind tunnel facility for testing.

# MUHLALA TURBINE



**“As a small business, it’s important to get organizations involved that have the technology and skills to help solve complex technical problems. I encourage everybody to use NMSBA. It’s a game changer.”**

## **Johann Steinlechner**

Owner  
Muhlala Turbine LLC

Wind turbines have helped meet the rising demand for renewable energy. Muhlala Turbine is working to improve turbines for a more sustainable future.

While attempting to advance its technology, the company faced the challenge of maximizing the energy output of its patented Heppolt wind turbine that was prototyped in New Mexico.

Muhlala reached out to the NMSBA Program and was connected with Kristin Morehead of the Arrowhead Center at New Mexico State University. Morehead connected NMSU Associate Professor of Engineering, Fangjun Shu, with Muhlala.

The team used NMSU’s wind tunnel facility to better understand velocity field measurements on the wind turbine using a particle image velocimetry system. Tiny reflective particles were introduced into the airflow, illuminated by lasers, and captured by high-speed cameras. The airflow patterns surrounding the turbine blades were mapped by analyzing the displacement of particles over time. This provided crucial insights. Through meticulous analysis of the data, Muhlala fine-tuned the extraction of energy, ensuring optimal performance.

Muhala’s enhanced turbine model has increased energy extraction by 10,000% to 14,000% per square mile compared to existing wind farms, depending on topography, resulting in higher energy output and lower costs.

As a result of the NMSBA collaboration, Muhlala Turbine validated its technology and is negotiating with the Morongo Tribe, Los Angeles Department of Water and Power, and City of Lancaster for new wind turbine projects. The company is also pursuing funding opportunities from federal grants, contracts, and private equity.

Meet the  
Principal  
Investigator

**Kristin  
Morehead**  
New Mexico  
State University





The dedicated team at FreshPure Waters stands proudly beside their innovative water purification system.

SANTA FE COUNTY





**“New Mexico businesses have a phenomenal opportunity to work with NMSBA, a partnership between the New Mexico national labs, New Mexico MEP, and universities. I encourage all companies to reach out and see how they can help you grow!”**

**Chris Donnelly**

President  
National Water Services  
dba FreshPure Waters

## NATIONAL WATER SERVICES

FreshPure Waters was founded to replace single-use plastic water bottles by providing consumers with a more eco-friendly, refillable bulk water option. Its system specializes in high-pH alkaline, reverse osmosis, and deionized water all in one machine. However, the rapidly growing demand for its purified water systems outpaced its production capabilities.

The NMSBA Program paired the company with Wesley Eccles and Jeff Abrams, directors at New Mexico Manufacturing Extension Partnership, to lead the initiative to optimize production, improve system maintenance, and expand market reach.

The collaboration began by developing a new design layout to increase the capacity of a larger facility currently under construction in Santa Fe. It became clear that an enterprise resource planning system would be invaluable. This software integrates various business functions into a single system, improving efficiency, enhancing decision-making, and streamlining processes. New Mexico MEP evaluated over 80 systems to find the best fit for FreshPure Waters’ needs.

While this evaluation was underway, FreshPure Waters acquired another water purifying company, bringing in an existing enterprise resource planning system. Leveraging the research already conducted, the company fully utilized this system to broaden its operational scope, streamline business processes, and facilitate scalable growth.

The collaboration produced important results that helped FreshPure Waters achieve its objectives. New Mexico MEP further provided lean manufacturing training to the company’s workforce, enhancing existing systems. These collaborative projects identified opportunities to optimize cell design, prioritize equipment improvements, and review best practices to align with FreshPure Waters’ growth goals.

Meet the  
Principal  
Investigators

**Jeff Abrams &  
Wesley Eccles**

New Mexico Manufacturing  
Extension Partnership

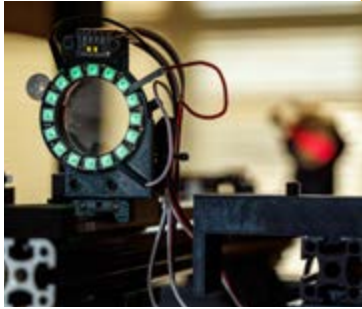




Scintellite team members Justin Robison, Steve Farrer, and TD Raymond with an early PAT prototype used to capture patient motion data for the leveraged project.

BERNALILLO  
SANDOVAL COUNTIES

# OPHTHALMIC SYSTEM LEVERAGED PROJECT



**“Joshua Lane and the dream team of engineers he recruited were ‘all in’ to solve our problem. The collaboration was excellent and highly productive. Thank you NMSBA and Sandia!”**

## **TD Raymond**

Chief Technology Officer  
Scintellite LLC

Scintellite specializes in designing and manufacturing advanced medical equipment for eye-related procedures and treatments.

Scintellite joined forces with Apex Machining LLC, Contrast Inc., Deuce LLC, and Integral Corporation to participate in a Leveraged Project through the NMSBA Program. The companies were paired with researcher Joshua Lane from Sandia National Laboratories to improve an ophthalmic patient alignment system.

PAT, the Partially Automated Technician designed by Scintellite, reduces the burden on skilled technicians during comprehensive eye exams by interacting directly with patients. PAT aligns itself to the patient’s eyes and tracks them while verbally guiding patients through the automated measurement process. Because it does not constrain the patient’s head, PAT’s patient alignment stage must deliver a wider range of 3D motion, higher speed, and greater precision than traditional optometric instruments.

The Sandia team of mechanical, optical, and robotics engineers led by Lane performed an analysis of the current PAT design. They identified issues that could affect system alignment and functionality. The team analyzed available patient motion data to extrapolate motion control requirements. They then modeled motion-related optical mount subsystems for robustness and manufacturability, and trained Scintellite engineers on how to select motion control components that will meet existing and future system requirements.

The project advanced the PAT technology, which won the New Mexico State University Arrowhead Center pitch competition. It also resulted in a pre-seed investment of \$50,000. PAT is now well on its way to having a real impact on ophthalmic care.



Ryan Mego, Anna Francis, Dylan Mego, and Brian Mego of the Francis Ranch, with Mike Lisk of Remote Well Solutions standing near a livestock watering trough being fed by an RWS Water Distribution Management System.

*(Puddled water outside the trough is due to a heavy rainstorm.)*

# REMOTE WELL SOLUTIONS



**“The path from an idea to a prototype and functioning system is very challenging. The NMSBA Program is the launchpad from idea to reality. Such technical assistance and guidance are resources of unmeasurable value.”**

## **Mike Lisk**

Owner  
Remote Well Solutions LLC

Lacking livestock water distribution systems, Navajo Nation ranchers have relied on costly, inefficient windmills and water hauling. Windmills are expensive to maintain and inherently waste millions of gallons of water by continuously pumping without a mechanism to stop flow.

Recognizing the urgent need for improved water access, Remote Well Solutions embarked on a groundbreaking collaboration with Systems Engineer Brian Dwyer from Sandia National Laboratories through the NMSBA Program.

Remote Well Solutions was awarded patents for a new, fully automated water distribution management system using solar panels to power high-efficiency pumps that draw water from existing wells. The microprocessor controlled system uses a network of pipes, valves and pressure sensors to regulate distribution of water to strategically positioned storage tanks and livestock watering stations. System installations dramatically expand land use, increasing livestock carrying capacity per ranch.

Collaboration with Sandia involved consulting on system design, evaluating water quality, and exploring point-of-use water treatment options. The system’s sturdy construction and weatherproofing ensure durability in harsh environments. The project report detailed system design specifications, water quality assessment results, and treatment recommendations.

In 2023, a \$502,000 pilot project installed these water systems on four Navajo tribal ranches. It created jobs, identified new water sources suitable for livestock, and has paved the way for \$25 million in installations. Depending on the number of installation contracts in 2024, Remote Well Solutions expects to hire 25 to 40 new employees.

Meet the  
Principal  
Investigator

**Brian Dwyer**  
Sandia National  
Laboratories



**Read more about Remote Well Solutions, the Honorable Speaker Ben Luján Award winner, on page 36.**



SALA employees demonstrating the use of virtual reality headsets for 360-degree visualization; immersive benefits are accessible at SALA even without virtual reality headsets.

# SALA LOS ALAMOS EVENT CENTER



**“Our project will be a key part of the future SALA operation, helping creators and developers to adapt their work for presentation and exhibit in the SALA immersive venue.”**

## **Allan Saenz**

Owner  
SALA Los Alamos Event Center

SALA Los Alamos Event Center is a community-driven hub that hosts diverse events and screenings. SALA offers innovative opportunities for education and entertainment. The company transformed a former movie theater into a thriving ‘living room’ for all Los Alamos people, echoing the venue’s Spanish name’s meaning. Recently, SALA sought a partnership with Los Alamos National Laboratory through the NMSBA Program to further its mission.

Dave Modl, a visualization scientist at Los Alamos, utilized his expertise to explore the potential of an immersive theater conversion, enhancing technological understanding and identifying key modifications to SALA’s Phase 2 Plan.

There is a growing demand for immersive learning and entertainment experiences that engage individuals through touch, interaction, and active participation. This direct audience involvement fosters deeper comprehension, retention, and meaningful connections with the material.

Modl’s insights were essential in determining the tools and features needed to construct an immersive user interface. He helped set the stage for the future implementation of application performance interfaces that would enable seamless integration of components within the facility. This will allow developers to create custom functionalities and interactive experiences at SALA and foster efficient communication between content management systems, audiovisual equipment, and user interfaces.

This collaboration has enhanced SALA’s understanding of immersive technology and laid the foundation for the venue’s transition into the next phases of its development. The goal is to help local creators and developers optimize their work for presentation in a fresh and engaging way.

Meet the  
Principal  
Investigator

## **Dave Modl**

Los Alamos  
National  
Laboratory



# MIGHTY SEED



James Caughren and Sharon-Joy Palmer-Caughren of SEED International, joined by their granddaughter Jady Polland selling microgreens grown in their food growing modules at a farmer's market. Palmer-Caughren is holding a photo of partners at Glass-Steel Inc., an engineering and fabrication company.

SANDOVAL COUNTY



# SEED INTERNATIONAL



**“This breakthrough in Controlled Environment Agribusiness proves the validity and reliability of the company’s working prototype model for growing food for humans and livestock. Collaboration with an extraordinary NMSBA team made this project a success.”**

**Sharon-Joy Palmer-Caughren**  
CEO  
SEED International Inc.

SEED International is optimizing a system of high-tech food-growing module prototypes. The company aims to provide fresh produce to rural communities and give underprivileged youth training in plant science and agribusiness to help them earn income. The goal is to empower youth to learn how to have a self-supporting and sustainable lifestyle for themselves and their families.

However, SEED International’s existing technology had to be further refined to ensure commercial viability and scalability. The company sought the expertise of Sanna Sevanto, a Los Alamos National Laboratory scientist, to help optimize this technology through the NMSBA Program.

The standalone growing modules were equipped with sensors to measure environmental variables. Built-in control systems regulated these variables to ensure the plants are grown under the best possible conditions. However, these control systems made adjustments challenging. This resulted in inefficiencies and hindered overall productivity.

Los Alamos Technologist Samantha Peterson collaborated with Sevanto to select and program a new microcontroller-based environmental sensing and moderating system.

She used an open-source MicroPython program to code the microcontroller. It gathers real-time data from integrated sensors to monitor the modules’ air temperature, humidity, and soil moisture levels. This enables precise control, automatically activating a relay switch to efficiently regulate connected appliances for heating, cooling, or irrigation as needed.

The collaboration led to a smaller, more streamlined prototype named Lil’ Mighty SEED, which simplified fabrication, assembly, and commercialization. The company anticipates increasing distribution and creating jobs for disadvantaged youth.

Meet the  
Principal  
Investigators

**Sanna Sevanto &  
Samantha Kimberly Peterson**  
Los Alamos National Laboratory





The SensorComm team displays AI-powered, Internet of Things/ IoT-driven electronics for their multi-gas sensor platform.

# SENSORCOMM TECHNOLOGIES



**“NMSBA’s process and the team at Sandia provided expertise that is enabling access to new markets and helping fuel SensorComm’s growth.”**

## **Kamil Agi**

President-CEO  
SensorComm Technologies Inc.

SensorComm Technologies specializes in creating advanced emission monitoring solutions using a multi-gas sensor platform. The technology provides real-time data to help clients transition to cleaner energy and make educated choices regarding energy usage, emissions management, and environmental impact.

However, electrical noise from the substrate or surrounding material can interfere with the signals captured by the multi-gas sensor platform. This interference can cause measurements to be inaccurate, making it difficult to differentiate between signals generated by actual emissions and background noise. As a result, the reliability of the data collected can be compromised.

To address this challenge, SensorComm Technologies turned to Sean Bishop and Dan Lowry, staff scientists at Sandia National Laboratories, through the NMSBA Program. Leveraging their expertise in ceramics, Bishop and Lowry engineered a new sensor system outlined by SensorComm Technologies. They fine-tuned the production of uniform, highly insulating, dense substrates, using advanced ceramics in a commercially scalable tape casting process. They succeeded in creating an expected lower electrical noise sensor platform. The Sandia team accelerated the development of new sensors, resulting in better material properties, and paved the way for a scalable manufacturing process.

Sandia’s noise reduction and manufacturing recipe helped SensorComm secure substantial funding, new customers, and plans for workforce expansion. Bishop’s guidance and Sandia’s resources also helped SensorComm Technologies provide a path to fulfill U.S. manufacturing requirements and access new markets.

Meet the  
Principal  
Investigator

**Sean Bishop**  
Sandia National  
Laboratories



# PROGRAM METRICS

# 2023

## VALUE OF PROGRAM ASSISTANCE

In 2023, the state of New Mexico, along with Los Alamos National Laboratory and Sandia National Laboratories, invested **\$4.49 million**, helping **241 small businesses** in **21 counties** to solve technical challenges. The following table contains the number of small businesses that received assistance from NMSBA, dollar value of the assistance for calendar year 2023, and cumulative value from 2000 to 2023.

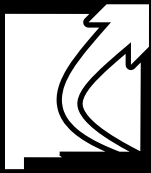
	LOS ALAMOS*	SANDIA	TOTAL**
<b>NUMBER OF SMALL BUSINESSES SERVED</b>			
<b>2023</b>	<b>110</b>	<b>133</b>	<b>241</b>
Rural	55	46	100
Urban	55	87	141
<b>2000 - 2023**</b>	<b>1,224</b>	<b>2,524</b>	<b>3,340</b>
Rural	813	1,463	2,039
Urban	411	1,061	1,301
<b>VALUE OF ASSISTANCE PROVIDED</b>			
<b>2023</b>	<b>\$2,192,893</b>	<b>\$2,299,963</b>	<b>\$4,492,856</b>
Rural	\$1,385,021	\$1,040,071	\$2,425,092
Urban	\$807,872	\$1,259,892	\$2,067,764
<b>2000 - 2023</b>	<b>\$34,392,030</b>	<b>\$50,706,806</b>	<b>\$85,098,836</b>
Rural	\$27,438,049	\$34,274,757	\$61,712,806
Urban	\$6,953,981	\$16,432,049	\$23,386,030

\* Los Alamos began participating in NMSBA in 2007.

\*\* Some companies are served by both laboratories.

Note - In 2019, Santa Fe County moved from being a rural county to an urban county.





## BENEFITS TO NEW MEXICO SMALL BUSINESSES

New Mexico small businesses achieved positive results after receiving technical assistance from NMSBA. Feedback from companies that participated in the 2022 economic impact client survey revealed that:

**67%** DEVELOPED A NEW PRODUCT OR TECHNOLOGY

**61%** IMPROVED OVERALL OPERATIONS

**70%** EXPANDED OR IMPROVED A PRODUCT OR SERVICE

**65%** BECAME MORE COMPETITIVE IN THE MARKETPLACE

**71%** IMPROVED THE EXPERTISE OR CAPABILITIES OF EMPLOYEES

## ACCOUNTABILITY & ECONOMIC IMPACT

NMSBA, enabled by the Laboratory Partnership with Small Business Tax Credit Act, is accountable to the state of New Mexico for its expenditures. NMSBA measures its economic impact through client surveys conducted by Research & Polling Inc., and economic analysis provided by Robert Grassberger, PhD Economist.

### Cumulative Economic Impact for Businesses from NMSBA Projects (2000-2022\*)

SMALL BUSINESS JOBS CREATED AND RETAINED	12,199
AVERAGE REPORTED SALARY (2022)	\$69,730
INCREASE IN REVENUE	\$538,754,733
DECREASE IN OPERATING COSTS	\$321,511,300
INVESTMENT IN NM GOODS / SERVICES	\$196,570,583
NEW FUNDING / FINANCING RECEIVED	\$297,336,730
RETURN ON INVESTMENT (ROI)**	

**For every \$1.00 of tax credit invested, the state receives a return of \$1.77.**

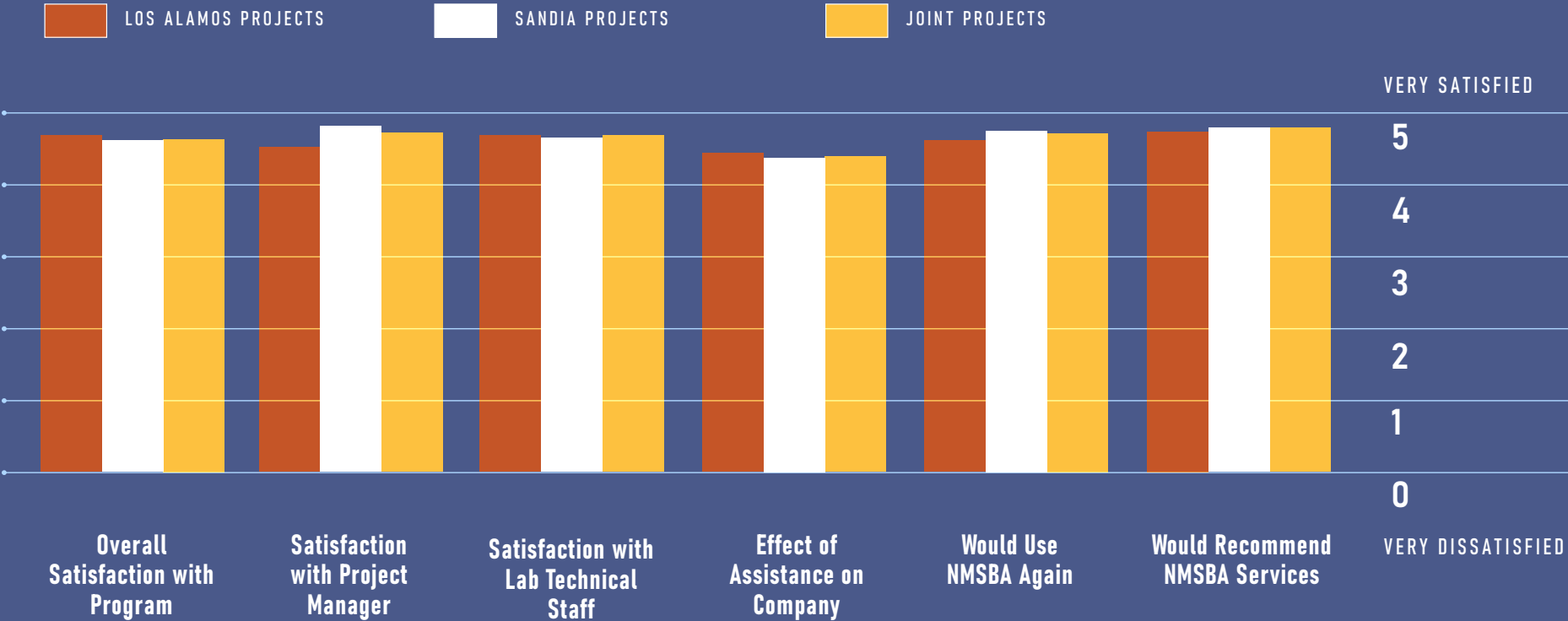
\*Economic surveys are performed six months to one year after project completion.

\*\*ROI is based on salaries of jobs created and retained.

# CUSTOMER SATISFACTION

Each year, NMSBA surveys the participating businesses to learn about their satisfaction with the Program. In 2023, 71% of the businesses responded to the survey.

# 2023



NMSBA identifies the areas of technical expertise that the national laboratories and their contractors utilized in NMSBA technical assistance projects, as well as the industry sector for the participating companies. The counties in which the small businesses are located are tracked to gain a better understanding of the reach of the NMSBA Program across the state.

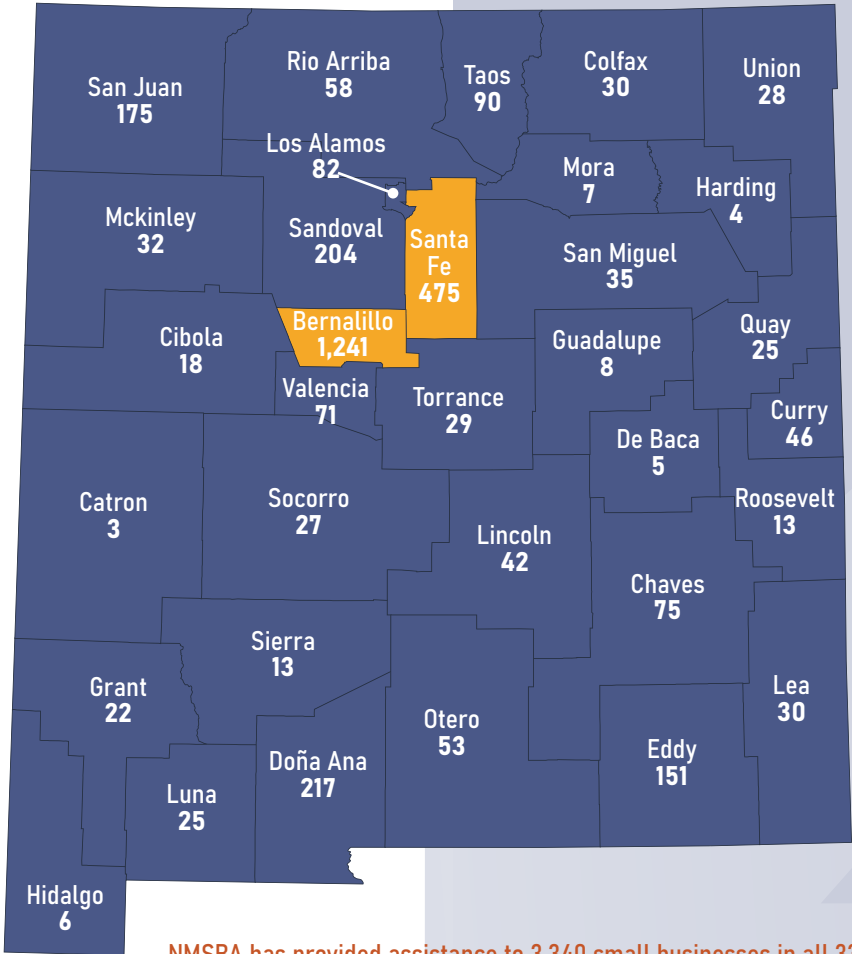


**LABORATORY CAPABILITIES UTILIZED [2023]**

Manufacturing .....	21.6%
Engineering .....	13.3%
Advanced Modeling and Simulation .....	12.8%
Business Development .....	11.6%
Biological and Medical .....	10.8%
Earth and Environmental Sciences .....	8.3%
Materials Science .....	7.9%
Math and Computer Science .....	4.6%
Micro-Nano Technology .....	4.1%
Chemistry .....	2.9%
Energy .....	2.1%

**INDUSTRIES OF SMALL BUSINESSES SERVED [2023]**

Manufacturing .....	45.7%
Professional, Scientific, and Technical Services .....	31.6%
Agriculture and Natural Resources .....	9.5%
Oil & Gas, Utilities, and Mining .....	3.7%
Retail and Wholesale Trade .....	3.7%
Education Services and Health Care .....	2.5%
Other Services (except Public Administration) .....	1.7%
Media and Hospitality .....	0.8%
Real Estate, Finance, Insurance, and Management Services .....	0.8%



NMSBA has provided assistance to 3,340 small businesses in all 33 New Mexico counties during the life of the Program from 2000-2023.

# LEVERAGED PROJECTS

Los Alamos National Laboratory and Sandia National Laboratories provide technical assistance for both individual and leveraged NMSBA projects. The following is a listing of this year's leveraged projects.

		COUNTIES SERVED	FUNDING
<p><b>LOS ALAMOS</b>  <b>Assessing the Impact of Ultrasonic Filtration on New Mexico Beer Quality</b></p>	<p>Ultrasonic Filtration tests were performed on seven unclarified beers and the preliminary results indicate UF was effective for removing large particles like yeast that cause flavor instability but retaining smaller particles like proteins that contribute to mouthfeel in six of the seven samples. These results show that UF is a promising technology for beer clarification and has the potential to produce a high quality, stable beer with a flavor closer to that expected by the Brewmaster.</p> <p><b>BUSINESS PARTICIPANTS</b>                      Beer Creek Brewing Company   Ex Novo Brewing   La Cumbre Brewing Company   Santa Fe Brewing Company Inc.   Taos Mesa Brewing</p>	<p>Bernalillo                      Sandoval                      Santa Fe                      Taos</p>	<p><b>\$119,200</b></p>
<p><b>LOS ALAMOS</b>  <b>Ayurveda and the Microbiome</b></p>	<p>The Lab was able to provide assistance to evaluate the interactions between the human gut microbiome and various herbal supplements of interest to Siddha Labs. The Lab obtained the necessary approval for human-related studies and performed microbiology testing.</p> <p><b>BUSINESS PARTICIPANTS</b>                      Arogya Apothecary LLC   Fish Theory Design LLC   Siddha Labs   The Arogya Center</p>	<p>Bernalillo                      Santa Fe</p>	<p><b>\$78,900</b></p>
<p><b>LOS ALAMOS</b>  <b>Cell Culture</b></p>	<p>The Lab provided technical support for developing a chemically defined cell culture media using real-time data collection, as specified in the companies' application. This process included conducting a series of lab experiments, gathering and analyzing the resulting data before communicating the findings to the requestor. A comprehensive 30-page summary report detailing the outcomes of this project was provided.</p> <p><b>BUSINESS PARTICIPANTS</b>                      Alpha Arietis LLC   Daedalus Technology Group LLC   Enchanted Land Properties LLC   Science Business Software Inc.   Western BioTech LLC</p>	<p>Bernalillo                      Sandoval</p>	<p><b>\$132,700</b></p>



		COUNTIES SERVED	FUNDING
<b>SANDIA</b> <b>Distributed Hydrogen</b>	<p>The Labs assessed safety risks for a hydrogen fuel system, considering concerns regulators might have. They analyzed potential leaks during transport and long-term material weakening due to hydrogen exposure. The Labs used proprietary and open-source software to simulate hydrogen buildup in a transport trailer under various situations. They also evaluated venting designs to minimize dangerous hydrogen accumulation. Documentation of findings was provided to the companies.</p> <p><b>BUSINESS PARTICIPANTS</b> A-1 Machine Inc.   BayoTech Inc.   Industrial Mechanical Inc.   Merrion Oil &amp; Gas Corporation</p>	Bernalillo San Juan	\$122,000
<b>LOS ALAMOS</b> <b>Evaluating Anti-Microbial Properties</b>	<p>The Lab has explored the design of biological expression methods for 28 P, an anti-microbial peptide that has shown exceptionally broad activity against both gram positive and negative pathogens, with the goal of potentially lowering the cost of peptide production over chemical synthesis. Promising candidate expression systems have been selected and acquired. The Lab has designed all expression sequences and vector plasmids, and codon optimized them using online tools. Plasmids were then transformed and amplified in E. coli. Cell lines and DNA constructs are in hand, and samples of the expression systems that are currently analyzed were produced.</p> <p><b>BUSINESS PARTICIPANTS</b> BioFlyte Inc.   Black Garden Law   Innate Immunity LLC   IpTekk LLC   The NSE Inc.</p>	Bernalillo Santa Fe	\$85,000
<b>SANDIA</b> <b>Finding Weapons of Mass Destruction</b>	<p>The Labs helped model, fabricate, and test a durable and efficient ion source. This type of ion source has many potential uses, including in medical imaging for cancer treatment, nuclear fusion research, oil exploration, and most importantly, in safeguarding borders by quickly detecting weapons of mass destruction without slowing down trade. The project's outcomes were provided in the form of prototype models, data, and documentation.</p> <p><b>BUSINESS PARTICIPANTS</b> Aquila Inc.   Gold Standard Radiation Detection Inc.   Integrative Sourcing LLC   Korwest   Unmanned Systems of America LLC</p>	Bernalillo	\$100,000
<b>SANDIA</b> <b>High Laser Induced Damage Threshold Materials</b>	<p>The Labs assisted companies with fabricating nanostructures on durable materials that can handle powerful lasers following provided designs and super computer simulations. The Labs also performed low-power optical testing of the nanostructures to verify effective light manipulation was being achieved. Results were provided during the course of the work.</p> <p><b>BUSINESS PARTICIPANTS</b> CNC Machining   InSync Inc.   Sandia Electro-Optics Corporation / Unique Services   Voss Scientific LLC</p>	Bernalillo	\$79,500

		COUNTIES SERVED	FUNDING
<p><b>LOS ALAMOS</b> Impacts of Biochar on Plant Growth in an Agrivoltaics Setting</p>	<p>Using automated environmental measurement systems and plant physiological evaluations, the Lab tested the effects of different doses of biochar-compost mixtures on growth of tomatoes, chili peppers and leafy greens, as well as soil temperature and soil water retention. Soil biochemical properties in two soil types and in an agrivoltaics setting in field conditions were tested, as well as the interaction of biochar with soil microbial amendments in improving plant growth and drought tolerance in the greenhouse.</p> <p><b>BUSINESS PARTICIPANTS</b> Gonzo Farms LLC   The Old Chinese Gardens LLC   The Trollworks LLC</p>	Grant Santa Fe	\$59,100
<p><b>LOS ALAMOS</b> Implications of Forest Thinning Strategies in the Sangre de Cristo Mountains</p>	<p>The Lab assessed the impact of thinning on carbon and fire risk for the ponderosa pine forests in the Sangre de Cristo Mountain using Functionally Assembled Terrestrial Ecosystem Simulators. Results showed that, under a light thinning scenario, the aboveground vegetation carbon was not substantially reduced by 2060. In fact, about 56% of the thinned sites are projected to have more carbon than the scenario without thinning. Under the scenario of intensive thinning, the model projected a higher loss of carbon; however, ~48% of the sites have high aboveground carbon. The Lab's results showed that thinning could promote forest health under climate stress due to reduced water loss. Using the Santa Fe watershed as a model system, the thinning was shown to reduce the fire spread rate due to a reduced fire fuel load.</p> <p><b>BUSINESS PARTICIPANTS</b> Barela Timber Management Company   Old Wood LLC   Sangre de Cristo Mountain Initiative</p>	San Miguel Taos	\$82,400
<p><b>SANDIA</b> Ophthalmic System</p>	<p>A team of mechanical, optical, and robotics engineers improved the design of PAT, the Partially Automated Technican, a patient alignment system for comprehensive eye exams by analyzing available patient motion data to extrapolate motion control requirements. PAT must initially align to the unconstrained patient and then compensate for the patient's 3D motion as the exam proceeds. The team modeled the motion-related optical mount subsystems for robustness and manufacturability, and trained the companies in the selection of motion control components that meet the existing and future system requirements.</p> <p><b>BUSINESS PARTICIPANTS</b> Apex Machining LLC   Contrast Inc.   Deuce LLC   Integral Corporation   Scintellite LLC</p>	Bernalillo Sandoval	\$120,000
<p><b>SANDIA</b> Organic Soil Restoration</p>	<p>The Labs provided technical support to the companies for a project testing organic fertilizers' impact on soil restoration and greenhouse gas reduction. Researchers conducted field trials, measuring gas emissions, soil carbon levels, crop yield, and soil water retention. The goal was to compare organic and synthetic nitrogen fertilizers' effects. A final report was produced summarizing the project's findings.</p> <p><b>BUSINESS PARTICIPANTS</b> Drought Adaptation Industries   Rancho Alma Linda   Tucumcari Bio-Energy Company</p>	Quay	\$81,300

		COUNTIES SERVED	FUNDING
<p><b>LOS ALAMOS</b> <b>Rapid Laser-Based Detection of COVID in Saliva</b></p>	<p>The Lab prepared bio samples containing filter papers for the companies to scan and analyze. Biosamples were two types of surrogate COVID viruses applied to the filter papers. The papers were baked at high temperature to heat kill the viruses. Non-infectious samples were sent to the companies for further analysis by their instrument. The companies are developing an instrument to diagnose infectious agents from raw/unprocessed samples by laser detection and applied machine learning algorithms.</p> <p><b>BUSINESS PARTICIPANTS</b> Creative LIBS Solutions LLC   Photon Medi-Lytics</p>	Sandoval	\$79,000
<p><b>LOS ALAMOS</b> <b>Underwater Mobility for UAV</b></p>	<p>The Lab used its unique expertise in design and engineering to assist the companies with understanding the aerodynamic performance of their current and subsequent improved design to further their ability to create a viable hybrid unmanned aerial/underwater vehicle prototype. The Lab performed computational fluid dynamics simulations and particle image velocimetry experiments on a prototype of the vehicle. The Lab quantified the vehicle's aerodynamic performance for a range of velocity values and angles of attack and advised the small businesses on wing design improvements to increase lift. The final deliverable included simulation results of the flow over both the original and improved designs and experiments in the laminar flow regime for both designs.</p> <p><b>BUSINESS PARTICIPANTS</b> Absolute Concept Designs   Cyborg FPV LLC   Xairgen LLC</p>	Bernalillo Sandoval	\$98,500
<p><b>SANDIA</b> <b>Wearable Mesh Network</b></p>	<p>The Labs provided technical assistance with building a special wearable device that can create a secure network for its users, even without cell service or internet access. The focus included enhancing device reliability, extending communication range, optimizing sensor operations, maximizing network capacity, and ensuring well-structured software code. The deliverable consisted of findings and recommendations.</p> <p><b>BUSINESS PARTICIPANTS</b> Keeler Ranches   Roper Solutions Inc. fka Reap LLC</p>	Dona Ana Hidalgo	\$80,000

# INDIVIDUAL PROJECTS

## BERNALILLO

AirSolve LLC  
AlbuGierke Environmental Solutions LLC  
Apple Canyon Gourmet Inc.  
AWS Bio-Pharma Technologies  
Baker Adaptive Optics  
BeeCleanSpot LLC dba Bee Clean  
BennuBio Inc.  
BoodleBody  
Captiva Group Inc. / Albuquerque Printing  
Century Sign Builders  
Continental Machining Company  
CVI Laser LLC  
Dark Sea Industries LLC  
Dash2 Labs Inc.  
Design & Spec Assemblies LLC  
Donaldson Engineering Inc.  
Eden Radioisotopes LLC  
Enchantment Snack Brands LLC dba Vigil's Beef Jerky  
Energy Analyst LLC  
Enthentica Inc.  
Equisec  
EV Charging Solutions LLC  
Filtravate Inc.  
Finches LLC  
Giltz LLC  
Goodman Technologies LLC  
Gratings Inc.  
Guardian Devices LLC  
Hawk Spider Energy Corporation

Hoonify Technologies Inc.  
IC-Safety LLC  
Inspyrd Products Corporation  
Inspyrd R and D Corporation  
Integrated OffGrid LLC dba GridFlow  
Joseph Yelk  
Kinesio Holding Corporation  
LAD Engineering LLC  
Lavender Road Handcrafted Luxury LLC  
LifeScience Testing and Analysis LLC  
Lojo Engineering  
Los Poblanos Historic Inn & Organic Farm  
MARPAAC Inc.  
Memzyme LLC  
Mesa Alta Research LLC  
MNT SmartSolutions  
mPower Technology Inc.  
My Bakery LLC dba Pastian's Bakery Enterprises  
NeoSan Labs Inc.  
NobHill Therapeutics  
OBTC Warehouse LLC dba Old Barrel Tea Company - ABQ  
OCO Biomedical  
Optisource R&D LLC  
OptiSource LLC  
PainScan Enterprises Inc.  
Pajarito Powder LLC  
ParadOxy LLC  
Paramount Custom Cabinets Inc.  
PillCall Inc.

Positive Energy Solar aka Positive Energy Inc.  
Precision Solar Technologies Corporation  
Radian Engineering LLC  
Radiant Technologies Inc.  
Radiation Detection Solutions LLC  
Radigan Engineering LLC  
Reprotox Biotech LLC  
Resilient Solutions 21 LLC / RS21  
Riccobene Masonry Co. Inc. dba Hard Scape Systems  
RingIR Inc.  
Roadrunner 3D LLC  
Sandia Pet Products LLC / V. F. Pet Products LLC  
Segura Enterprises LLC  
SensorComm Technologies Inc.  
Shirley's Dream Inc.  
Silicon Carbide Nanosheets Technology LLC  
Solar Thermal Power Systems LLC  
Southwest Composite Works / Southwest Pattern Works Inc.  
Steel Jupiter LLC  
Submaterial LLC  
Suyat Enterprises LLC dba Healing Gifts Herbs  
Theta Plate Inc.  
TPL Inc.  
Trail 9 Outdoors LLC  
Unhinged Brewing  
Unirac Inc.

United Projects Inc.  
Vamco LLC  
VisionQuest Biomedical Inc.  
Vital Grow Inc.  
Wavefront Dynamics Inc.  
World Exhibition Center LLC

## CIBOLA

C & E Concrete Inc.  
Chavez Plumbing and Supply LLP

## COLFAX

Angel Fire Real Estate LLC  
Angel Fire Resort Operations LLC

## DOÑA ANA

Artifacts Unlimited Industries  
Backyard Farms  
Callie Baby Bottle  
Chavira's LLC  
Freeze Dried Products LLC  
Indie LLC dba Bender Innovative Solutions  
Mesilla Valley Organics  
Mutchnick  
Organ Mountain Solar & Electric  
RB Designs LLC  
Sunnoo Inc.  
Worthington Farms LLC

## EDDY

Intrepid Potash - New Mexico LLC

## GRANT

Syzygy Inc.

## LINCOLN

Noisy Water Winery  
Stroud National Agency Inc.

## LOS ALAMOS

Jona Manufacturing Services Inc.  
Muhlala Turbine LLC  
Odysseus Technologies Inc.  
Pajarito Cloud Computing LLC  
Richard Sayre Consulting LLC  
SALA Los Alamos  
Trenza Inc.  
UbiQD Inc.

## MCKINLEY

Navajo Spirit Southwestern Wear

## OTERO

Emerging Technology Ventures Inc.  
Got Wood NM LLC  
Remote Well Solutions LLC

## QUAY

Energy Related Devices Inc.

## RIO ARRIBA

Canton Custom Instruments LLC  
Freshies of New Mexico LLC  
ORC Tech LLC  
Velarde Vines

## ROOSEVELT

Enchantment Vineyards LLC

## SAN JUAN

ABC Canvas Inc.  
Affordable Blinds LLC  
AG Engineering  
Agape  
Aztec Wellness  
Aztech Power and Energy LLC  
Black Exploration  
Brady Trading LLC  
Haul Kings LLC  
Hauling Accessories LLC  
Jack's Plastic Welding Inc.  
McCulloch Minerals  
Power and Control Solutions Inc.  
Real Green Building Systems  
Simply Solid LLC  
Teresa Lackey dba Valley Mills

## SAN MIGUEL

MxRam LLC  
San Miguel Sun Dwellings  
Seed + Stone LLC

## SANDOVAL

Advanced Optical Technologies Inc.  
Deluxe Design Inc.  
DHF Technical Products LLC  
IRP Technology LLC  
Larry's Tires & Power Saw Shop  
MemoryWell

Mezel Mods  
NTx Inc.  
O'flo.co  
Q Biotech Corp.  
Seed International Inc.

## SANTA FE

Active Assurance Inc.  
Apogee Spirulina  
Beck & Bulow Buffalo LLC  
Better Music Boxes  
Both & Apparel  
Broken Arrow Glass Recycling LLC  
Fault Tolerant Technology LLC  
Hollowpoint LLC dba  
Wicked Edge Sharpeners  
iBeam Materials Inc.  
Keystone Restoration Ecology Inc.  
LatticeX  
Leaf & Hive LLC  
Legacy Sustainable Development dba  
Transcendence LLC  
Lithified Technologies US LLC  
National Water Services LLC dba  
Fresh Pure Waters  
NeuroGeneces LLC  
Reverse Engineer Lab LLC  
San Cristobal Development  
Social TecKnowledge LLC dba  
Fidelity EHR  
STAR Cryoelectronics LLC  
The RainCatcher Inc.  
Tummi Yummi dba Tall Goods LLC  
Western Ecology LLC

## TAOS

Diamond Sow Garden  
Solar Thermal Cladding LLC dba  
Taos Solar Resources Inc.

## TORRANCE

KemKey LLC  
Rescue Tactics and Training LLC

## VALENCIA

AC Disposal Services Inc.  
Bright Holdings LLC  
Pro-Fab Inc.  
Sisneros Bros. Mfg. LLC

HONORABLE  
SPEAKER

# BEN LUJÁN AWARD

for Small Business Excellence

Ryan Mego, Anna Francis, Dylan Mego, and Brian Mego of the Francis Ranch, with Mike Lisk of Remote Well Solutions, standing near a new livestock water trough being filled from a storage tank at the top of the ridge that is part of an RWS Water Distribution Management System.

*(Puddled water outside the trough is due to a heavy rainstorm.)*



## REMOTE WELL SOLUTIONS

Remote Well Solutions won the 2023 Honorable Speaker Ben Luján Award for Small Business Excellence for demonstrating the most economic impact. The company's solar-powered, fully automated water distribution management system is solving a longstanding problem.

In New Mexico, much of the ranch land is underutilized due to the lack of water distribution infrastructure. High-maintenance windmills pump well water, filling a livestock drinker at the windmill base, but cannot distribute water across the land. Often, unreliable windmills break, forcing ranchers to replenish tanks by trucking water long distances.

An economic impact study prepared by the Arrowhead Center at New Mexico State University shows that installing off-grid water pumping, control, distribution, and monitoring systems on Navajo Tribal Cattle Ranches in New Mexico would triple the number of cattle that can be carried on each ranch, thereby tripling annual ranch revenue. Installing the reliable new systems also creates local jobs, conserves water, and results in more efficient forage utilization by livestock.

As a rancher and engineer, Remote Well Solutions Owner Mike Lisk understands the water distribution challenge, and after years of persistence, his practical solution is now patented.

The partnership between the company and Sandia National Laboratories through the NMSBA program resulted in a finished design which has been installed on multiple Navajo ranches. Lisk has seen the difference these systems make to people who can now stop hauling water hundreds of miles every week.

Several million dollars has been allocated for more installations in 2024, and the Navajo Nation has been awarded a \$25 million U.S. Department of Agriculture Regional Conservation Partnership Program grant to increase utilization of these systems on its lands.

Laguna Pueblo is also considering installing the water distribution systems. Future systems could be adapted to distribute potable water to rural homes lacking water service.

Read more about Remote Well Solutions and its NMSBA project on page 18.

# THANK YOU

...to all the small businesses for participating in NMSBA and creating jobs and economic wealth for New Mexicans.

...to all the Los Alamos and Sandia national laboratories principal investigators who applied their expertise and knowledge to help New Mexico small businesses solve their technical challenges.

...to the Office of the Governor, New Mexico Legislature, New Mexico Economic Development Department, and New Mexico Department of Taxation and Revenue for their continued support of the Laboratory Partnership with Small Business Tax Credit Act and NMSBA.

## ACKNOWLEDGEMENTS

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**T.J. Cook**  
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**Kim DeFriend**  
Los Alamos National Laboratory

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New Mexico Economic Development Department

**Adriene Gallegos**  
New Mexico Small Business Development  
Center Network

**Alex Greenberg**  
New Mexico Economic Development Department  
Office of Science & Technology

**Karl Halpert**  
Private Label Select Ltd.

**John Heaton**  
City of Carlsbad

**Cliff Hudson**  
Emerging Technology Ventures Inc.

**Thomas Jensen**  
Entrepreneur

**Ron Manginell**  
Sandia National Laboratories

**Duncan McBranch**  
Los Alamos National Laboratory

**Vanessa Roanhorse**  
Roanhorse Consulting

**Dan Sanchez (ex officio)**  
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**Michael Vickers**  
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University of New Mexico

**Kristin Morehead**  
New Mexico State University

**Frank Reinow**  
New Mexico Tech

**Jennifer Sinsabaugh**  
New Mexico Manufacturing  
Extension Partnership

**Steve Walsh**  
University of New Mexico

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Nyika Allen, Todd Bisio, Barbara Brazil, Jim Brockmann, John Chavez, Jerome Garcia, David Griscom, Charles Hanley, Steven Hernadez, Gil Herrera, David Janecky, James Manatt, Kevin McMahon, David Meurer, Mary Monson, Donald Quintana, Kim Sanchez Rael, Michael Roach, Robert Sachs, Myrriah Tomar, Eva Woods

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Sandia National Laboratories

**Valerie Salim-Meza**  
Sandia National Laboratories

**David Trujillo**  
Los Alamos National Laboratory



And a final thank you to the **staff** who work every day to ensure the success of NMSBA.

**Sharon Evans**

Sandia National Laboratories

**Jeffrey Hall**

New Mexico Manufacturing  
Extension Partnership  
Los Alamos National Laboratory

**Judy Hendricks**

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**Julia Wise**

Los Alamos National Laboratory

**Megan Zipperian**

New Mexico Manufacturing  
Extension Partnership  
Los Alamos National Laboratory



**REMEMBERING  
JEFF HALL**

NMSBA colleagues  
celebrate the life of Jeff  
and his contributions to  
the Program.

**Perspectives Annual Report Team**

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**David Woodfin**

Photographer



## 2022 INNOVATION CELEBRATION

On September 13, 2023, NMSBA hosted the annual Innovation Celebration to recognize the 10 companies featured in the Perspectives 2022 Annual Report at the Lobo Rainforest in Albuquerque. The event was sponsored by New Mexico MEP. In addition to honoring NMSBA participants, the event provided an opportunity for small businesses, local economic development representatives, elected officials, and community leaders to network and learn what NMSBA offers to help businesses grow.

### 2022 SUCCESS STORIES

- Blue Eye Soft
- Emergency Response Leveraged Project
- Goodman Technologies
- High Laser Induced Damage Threshold Metasurface Phase Retarder Leveraged Project
- Integrated Deposition Solutions
- Predicting siRNA Leveraged Project
- Siddha Labs
- Syzygy
- Trollworks
- Worthington Farms

### 2022 BEN LUJÁN AWARD WINNER

The Predicting siRNA Leveraged Project won the Honorable Speaker Ben Luján Award for Small Business Excellence for demonstrating the most economic impact. Mercury Bio, Richard Sayre Consulting, Mountain Vector Energy, and Pajarito Cloud Computing collaborated with Los Alamos National Laboratory on the project focused on advancing highly targeted delivery of drugs to specific cells.



*Solving New Mexico's Small Business Challenges*



*Solving New Mexico's Small Business Challenges*

NMSBAprogram.org

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