2195 Businesses Assisted

3510 Jobs Created and Retained

$39M Technical Assistance Provided by Labs

33 New Mexico Counties Represented
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The New Mexico Small Business Assistance Program plays an important role in nurturing small businesses that lack technical expertise. NMSBA works closely with the nation’s top two research institutions – Los Alamos National Laboratory and Sandia National Laboratories – to tap skills from preeminent scientists and engineers to help small businesses with any technical challenges. In New Mexico, NMSBA is at the forefront of turning small ideas and concepts to big marketplace successes.

Demesia Padilla  
Cabinet Secretary  
New Mexico Taxation and Revenue Department  
State of New Mexico

The New Mexico Small Business Assistance Program is a tremendous resource for driving economic and job growth in New Mexico. I am pleased with NMSBA’s effort to help small businesses increase their technical capabilities, giving them a competitive edge to succeed and grow.

Jon Barela  
Cabinet Secretary  
Economic Development Department  
State of New Mexico
Dear Governor Martinez and New Mexico State Legislators,

We are pleased to share with you the 2013 Annual Report for the New Mexico Small Business Assistance (NMSBA) Program. This report showcases success stories and presents quantitative results from the past year.

During 2013, NMSBA helped 354 small New Mexico businesses sustain and grow their companies. 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 over $4.6 million of national laboratory expertise and resources to help small businesses in 29 counties overcome technical challenges.

Highlights from 2013 demonstrate the impact of NMSBA on small businesses from various industries around the state.

- Five Albuquerque companies jointly received assistance to improve the ergonomics and measurement range of a new skin fold caliper.
- A group of companies from San Juan and Sierra counties were able to show that their green technology systems result in economic benefits to homeowners and municipalities.
- A Santa Fe company developing inspection tools for 3-D printers and other manufacturing technologies received an evaluation of existing technologies capable of providing high-accuracy optical metrology solutions that could be applied to 3D metal printing.
- A Socorro company that invents, designs, and produces solar-powered lighting and attic ventilation systems was assisted in streamlining production workflow to decrease product cycle time from 40 to 22 minutes and increase production capacity to 1,500 units a month.

This year, Data Center Transitions received the “Honorable Speaker Ben Luján Award for Small Business Excellence” for demonstrating the most economic impact. Through NMSBA, the company received an evaluation of the design of their MASS Lift’s power system. As a result of NMSBA’s assistance, the company was able to cut costs by 20%, keep production in Albuquerque, and sell additional units to Microsoft and Facebook.

NMSBA has helped create jobs, increase revenues, decrease operating costs, and attract new funding opportunities. Since 2000, NMSBA has assisted 2,195 businesses representing all 33 New Mexico counties, enabled 3,510 jobs to be created and retained, and provided $39 million in technical assistance from our two national laboratories.

We sincerely thank you for your continued support of NMSBA, which allows our great state to engage the national laboratories and small business community in promoting economic development and creating wealth throughout New Mexico!

Sincerely,

Belinda Snyder
Los Alamos National Laboratory

Jackie Kerby Moore
Sandia National Laboratories
In 2000, the New Mexico State 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 NMSBA to help small businesses throughout the state by providing technical support. Los Alamos National Laboratory began participating in the program 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.

During 2013, NMSBA helped 354 small businesses across the state reach business goals, develop their products for commercial use, and increase profitability.

NMSBA makes a statewide impact by:
- Enabling New Mexico small businesses to access 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

While each company utilizes NMSBA in a different way, all use it as a means to maintain or grow their businesses. Our services are provided at no cost to the participating small businesses in the form of lab staff hours valued at up to $20,000 per calendar year for businesses located in rural counties and $10,000 for businesses located in an urban county (Bernalillo County). 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.
TYPES OF SMALL BUSINESS ASSISTANCE

Individual Projects
Individual NMSBA projects involve a single New Mexico for-profit small business. Projects address challenges specific to the business 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 NMSBA’s 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. NMSBA contracts for specific services with the New Mexico Manufacturing Extension Partnership and the three state research universities.

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

The University of New Mexico Management of Technology program at the Anderson School of Management evaluates the commercial potential of small business technology and identifies commercialization challenges.

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

The New Mexico Tech Department of Management interfaces with a variety of disciplines taught at the university to help accurately assess the current competitive position of small business technology.

FUTURE DIRECTION
NMSBA continues to successfully support the growth and diversification of the New Mexico economy. As NMSBA moves into the future, it will continue to broaden the types of businesses receiving assistance, increase the range of technical expertise offered by the national laboratories, and expand the program’s coverage in underserved rural counties. In addition, NMSBA continues to look for new opportunities and avenues to partner with New Mexico universities.

In 2013, past participants of NMSBA took part in a long-term economic impact survey. NMSBA is using the results of this survey to identify how NMSBA has helped commercialize technologies and create economic impact over a sustained period of time.
On April 3, 2014, NMSBA hosted the annual Innovation Celebration at the Technology Ventures Corporation 2014 Innovation Summit. The Success Stories throughout this publication highlight the companies that were recognized at the event. These photos capture the spirit of the celebration.
New Mexico Small Business Assistance (NMSBA)
We’re transitioning from our development phase to a marketing phase. We’re going to start using the concepts from NMSBA, and I expect we’ll find out that it’s more helpful as we go.

Tom Anderson
Co-Founder

CUSTOMIZABOOKS

Tom Anderson’s company, Customizabooks, LLC, works with people to convert their children’s books or stories into digital apps. In this rapidly growing digital field, Anderson was looking for help in both improving his interactive book apps and taking his product outside traditional markets.

NMSBA paired Anderson with University of New Mexico (UNM) professor Steve Walsh and his team of students. UNM students Ryan Brown and Ruth Karkiewicz worked together to analyze the company’s production process. They then proposed suggestions for advancing the graphics and animations in Anderson’s mobile apps.

To help identify different primary customers, Walsh brought in student Nathan Tafoya to use a non-traditional expeditionary marketing approach, which involves searching for markets in places businesses don’t currently exist. Using this commercial development technique, they analyzed the technology’s unique benefits, developed a commercialization strategy for the company, and recommended innovative ways for Anderson to market the digital apps.

As a result of the help, Customizabooks was able to accelerate its time to market, generate a new customer base, and find other potential customers.

Coupled with the Los Alamos National Security (LANS) Venture Acceleration Fund, the production and marketing assistance from UNM allowed Customizabooks to successfully obtain a first round of funding.

Meet the PRINCIPAL INVESTIGATORS

Left to right: Ryan Brown, Steve Walsh, Nathan Tafoya, and Sul Kassicieh

University of New Mexico
NMSBA reduced my manufacturing costs by 20% and made it possible to build everything here in Albuquerque. We should have our first million dollar in sales within six months.

Bill Watts
Owner

DATA CENTER TRANSITIONS

To help transport his company’s large computer server cabinets, Bill Watts of Data Center Transitions, Inc., designed an innovative lifting device called a MASS Lift. Using two motorized units in tandem, the MASS Lift can raise and move a 5,000-pound server cabinet.

But Watts ran into problems when the electronics in the lift’s control system threatened to interfere with sensitive computer servers stored in the cabinets.

To resolve the problem, NMSBA paired Watts with mechanical engineer Jeff Dabling and his team of electronics experts at Sandia National Laboratories to evaluate the design of the MASS Lift’s control system. The team sourced a suitable motor and controller for Watts’ control system and also helped him incorporate a mechanical torque-limiting clutch and an electromagnetic brake into the controls to hold the load suspended. The team’s suggestions not only added 500 more pounds of capacity to the lift, but the modifications also improved the lift’s safety features and its overall operational reliability.

The reworked control systems reduced Watts’ costs by 20% and allowed him to source and build his product entirely in Albuquerque. Watts signed a contract with Microsoft for one pair of MASS Lifts and expects a follow-up order of more than 50 units. He expects to make his first million dollars in sales within six months.

Meet the
Principal Investigator

Jeff Dabling
Sandia National Laboratories
ENCHANTED WOODWORKS

Founded and operated by Jeri Remley, Enchanted Woodworks, LLC, manufactures educational wooden puzzle kits for children. In producing and selling the kits, Remley realized her product needed packaging that was more appealing to customers, as well as reusable and more environmentally friendly. She also wanted to have a better understanding of her market and the potential for growth.

For help, Remley turned to NMSBA through the Arrowhead Center at New Mexico State University. Griselda Martinez, enlisting the support of a team of people with business and engineering expertise, performed research on consumer development. Their study considered design features and components that better connected the kits with potential customers. As a result, Remley came away with numerous recommendations for package redesigns and ideas for product development.

With production suggestions in hand, Remley created new prototypes implementing the recommendations. The changes transformed her product line, adding user-friendly and attractive new packaging and a fully illustrated instruction guide for more than 30 different themed kits.

Remley showed her newly designed kit samples at regional and local shows. The new changes resulted in 30% increased sales for her company and have attracted potential wholesale buyers. Since the assistance, Remley has hired two additional contractors, including a storywriter and an additional graphic artist.

Meet the PRINCIPAL INVESTIGATOR

Griselda Martinez
Arrowhead Center at New Mexico State University
I don’t think we could have done what we did without the help from NMSBA. The effort has been a return on that investment.

Malcolm Fowler
 Owner

McFarland Instrumentation Services

McFarland Instrumentation Services, Inc., designs and fabricates electronic instrumentation for analytical procedures and data analysis. To further help companies with their instrumentation’s analytical needs, McFarland owner Malcolm Fowler wanted to validate the precision of his equipment. The certification he sought for the analytical procedures was not available in the commercial sector.

NMSBA connected Fowler with Deb Summa of Los Alamos National Laboratory, who assembled a team to help with the company’s instrumentation testing and measurements.

Using a unique high-resolution mass spectrometer, Summa and her team ran confirmatory tests on numerous materials with various gas compositions for catalytic activity. The team also helped prepare metal foils that were implanted with fluorine to modify their potential catalytic activity. Summa’s team then monitored and evaluated the measurements, providing Fowler with the results of the confirmatory testing.

McFarland Instrumentation was able to certify its analytical methods as a result of the evaluations from Summa’s team. With this information, the company subsequently secured contracts with a low-energy nuclear company in Chicago for $45,000, an amount that could increase in the future. Another company in Texas is also pursuing the validation services of McFarland Instrumentation Services.

Meet the Principal Investigators

Left to right: Yong Wang, Don Dry, Deb Summa, John Gill, and Tom Claytor
Los Alamos National Laboratory
What NMSBA did is incalculable; economically, it’s incredible. Everyone on the project is getting business growth, and more people are looking at these technologies now. I believe we’re going to have a major economic impact in New Mexico.

Doug Lenberg
Chief Executive Officer

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REAL GREEN CONSTRUCTION LEVERAGED PROJECT

Doug Lenberg of Real Green Building Systems and four other construction and real estate companies are offering environmentally friendly home designs in San Juan and Sierra counties. They wanted to see how their innovative features stacked up against industry baseline data.

The home designs integrate plumbing-based fire protection, solar thermal heating and hot water, solar electricity, and recycled water systems into each home. Lenberg and the other companies applied for a leveraged NMSBA project to obtain an unbiased evaluation of their environmentally friendly and affordable home designs.

Through NMSBA, Steven Booth and Andy McCown of Los Alamos National Laboratory conducted a cost-benefit analysis of homes designed with the green technology systems. Their analysis addressed value and payback periods of each green technology applied both to individual homes and at the subdivision level. They also compared each technology’s performance against standard industry practices.

The cost-benefit analysis showed that the green technology systems offer a payback in less than eight years and result in economic benefits to homeowners as well as municipalities. The analysis revealed that a subdivision of homes built with the integrated systems provides infrastructure cost savings for the entire community.

Overall, the cost-benefit analysis has helped Real Green Building Systems attract investors and increase business and has spurred hiring plans by the participating companies.

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Meet the
PRINCIPAL INVESTIGATORS

Steven Booth and Andy McCown
Los Alamos National Laboratory
PROGRAM METRICS

VALUE OF PROGRAM ASSISTANCE IN 2013

In 2013 the State of New Mexico, along with Los Alamos National Laboratory and Sandia National Laboratories, invested over $4.6M helping 354 small businesses in 29 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 2013, and cumulative value from 2000 to 2013.

<table>
<thead>
<tr>
<th>Number of Small Businesses Served</th>
<th>LANL</th>
<th>Sandia</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>160</td>
<td>194</td>
<td>354</td>
</tr>
<tr>
<td>Rural</td>
<td>135</td>
<td>95</td>
<td>230</td>
</tr>
<tr>
<td>Urban</td>
<td>25</td>
<td>99</td>
<td>124</td>
</tr>
<tr>
<td>2000-2013*</td>
<td>538</td>
<td>1,821</td>
<td>2,195</td>
</tr>
<tr>
<td>Rural</td>
<td>415</td>
<td>1,133</td>
<td>1,431</td>
</tr>
<tr>
<td>Urban</td>
<td>123</td>
<td>688</td>
<td>764</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value of Assistance Provided</th>
<th>2013</th>
<th>Rural</th>
<th>$2,339,973</th>
<th>$2,356,558</th>
<th>$4,696,531</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>$2,143,153</td>
<td>$1,531,847</td>
<td>$3,675,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>$196,820</td>
<td>$824,711</td>
<td>$1,021,531</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000-2013*</td>
<td>$12,133,458</td>
<td>$26,927,346</td>
<td>$39,060,804</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>$10,964,616</td>
<td>$20,809,365</td>
<td>$31,773,981</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>$1,168,842</td>
<td>$6,117,981</td>
<td>$7,286,823</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*LANL began participating in NMSBA in 2007. †Some companies are served by both laboratories.

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 and Polling, Inc., and economic analysis provided by Brian McDonald, PhD Economist. The survey and analysis are performed six months to a year after the completion of the project.

Economic Impact for Businesses from NMSBA Projects

<table>
<thead>
<tr>
<th>2000 - 2012</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Investment (ROI)*</td>
<td>$1.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Business Jobs Created and Retained</td>
<td>3,510</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Salary</td>
<td>$38,375</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in Revenue</td>
<td>$172,525,995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decrease in Operating Costs</td>
<td>$78,992,071</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment in NM Goods / Services</td>
<td>$56,383,857</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Funding / Financing Received</td>
<td>$59,603,539</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

BENEFITS TO NEW MEXICO SMALL BUSINESS

New Mexico small businesses achieved positive results after receiving technical assistance from NMSBA. Feedback from companies that participated in the 2012 economic impact client survey revealed that:

- 51% DEVELOPED A NEW PRODUCT OR TECHNOLOGY
- 50% IMPROVED OVERALL OPERATIONS
- 51% EXPANDED OR IMPROVED A PRODUCT OR SERVICE
- 50% BECAME MORE COMPETITIVE IN THE MARKETPLACE
- 50% IMPROVED THE EXPERTISE OR CAPABILITIES OF EMPLOYEES
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 county in which the small businesses reside are tracked to gain a better understanding of the reach of the program across the state.

**LABORATORY CAPABILITIES UTILIZED IN 2013**

<table>
<thead>
<tr>
<th>Laboratory Capabilities</th>
<th>Utilized in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>22.0%</td>
</tr>
<tr>
<td>Engineering</td>
<td>16.4%</td>
</tr>
<tr>
<td>Energy</td>
<td>11.6%</td>
</tr>
<tr>
<td>Chemistry</td>
<td>9.9%</td>
</tr>
<tr>
<td>Advanced Modeling and Simulation</td>
<td>8.5%</td>
</tr>
<tr>
<td>Business Development</td>
<td>8.2%</td>
</tr>
<tr>
<td>Earth and Environmental Sciences</td>
<td>8.2%</td>
</tr>
<tr>
<td>Materials Science</td>
<td>5.6%</td>
</tr>
<tr>
<td>Biological and Medical</td>
<td>4.2%</td>
</tr>
<tr>
<td>Math and Computer Science</td>
<td>4.0%</td>
</tr>
<tr>
<td>Micro-Nano Technology</td>
<td>1.1%</td>
</tr>
<tr>
<td>Astronomy and Physics</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

**INDUSTRIES OF SMALL BUSINESSES SERVED IN 2013**

<table>
<thead>
<tr>
<th>Industries of Small Businesses Served in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
</tr>
<tr>
<td>Professional, Scientific, and Technical Services</td>
</tr>
<tr>
<td>Agriculture and Natural Resources</td>
</tr>
<tr>
<td>Retail and Wholesale Trade</td>
</tr>
<tr>
<td>Oil &amp; Gas, Utilities, Mining</td>
</tr>
<tr>
<td>Education Services and Health Care</td>
</tr>
<tr>
<td>Other Services except Public Administration</td>
</tr>
<tr>
<td>Real Estate, Finance, Insurance, and Management Services</td>
</tr>
<tr>
<td>Media and Hospitality</td>
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</tbody>
</table>

**CUSTOMER SATISFACTION IN 2013**

Each year, NMSBA surveys the participating businesses to learn about their satisfaction with the program. In 2013, 81% of the businesses responded to the survey.

*Customer Satisfaction in 2013*

Los Alamos Projects | Sandia Projects | Joint

Very Satisfied

<table>
<thead>
<tr>
<th>Overall Satisfaction with Program</th>
<th>Satisfaction with Project Manager</th>
<th>Satisfaction with Lab Technical Staff</th>
<th>Effect of Assistance on Company</th>
<th>Would Use NMSBA Again</th>
<th>Would Recommend NMSBA Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>4</td>
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</table>

Los Alamos counties during the life of the program.
RETRIEVER TECHNOLOGY

Old seismograms, which are records of the earth’s vibrations, hold a wealth of information that could be beneficial to today’s work in nuclear nonproliferation, earthquake modeling, oil and gas extraction, and even climate-change modeling.

But there’s one main problem: these decades-old seismograms are film-based. As such, the data are rarely exploited because of the difficulty in converting the single snapshot images of the analog archives to more useful digital data, in which each seismogram line is made up of individual dots with a value and a time stamp.

Enter Retriever Technology, LP, a company that provides imaging software and hardware for scientific and industrial users. Andy Bartlett of Retriever Technology wants to develop a process to digitize seismograms so it’s possible to elicit usable information from the historical data. To tackle the problem, Bartlett approached NMSBA, which set him up with Bill O’Rourke of Sandia National Laboratories.

Tapping into Sandia’s signal and image processing expertise as well as geophysical proficiencies, O’Rourke consulted with Retriever Technology on suitable image and signal processing techniques to convert seismograms into usable digitized formats. His guidance provided Bartlett with an understanding of how image processing could be used to begin to solve conversion problems from film-based seismograms into digital data.

With Sandia’s assistance, Retriever Technology secured a $1 million Small Business Innovation Research (SBIR) Phase II award for future research into possible solutions.
NMSBA has helped us focus our internal R&D efforts and, therefore, streamline and accelerate our product development, which has a large cost savings.

Mark Cola
President and CEO

SIGMA LABS

The world of 3D printing—making solid parts from digital designs—is rapidly growing and proving invaluable in manufacturing. In many industries, however, certain parts or products must be made to exacting specifications. And 3D printing requires a costly and time-consuming separate inspection step after printing to ensure the part meets precise specifications.

Mark Cola of Sigma Labs, Inc., wanted to combine the two steps, the manufacture and inspection of parts, into one step to ensure the quality and geometry of the 3D metal printing. Sigma Labs specializes in advanced, real-time, non-destructive inspection systems for advanced manufacturing.

To help find a solution, NMSBA matched the company with Frank Reinow and Jun Zheng of New Mexico Tech. Reinow and Zheng led a team in investigating imaging techniques that use high-resolution digital cameras for precision measurements, also called optical metrology. The team identified existing technologies that provided high-accuracy optical metrology solutions for use in 2D printing, which could then be applied to 3D metal printing.

Reinow and Zheng’s team then provided recommendations on systems that offered the dimensional accuracy needed by Sigma Labs. The company used the recommendations in its research and development efforts to accelerate commercialization of their product.

Meet the PRINCIPAL INVESTIGATORS

Jun Zheng and Frank Reinow
New Mexico Tech

Meet the SUCCESS STORIES

Sigma Labs

The world of 3D printing—making solid parts from digital designs—is rapidly growing and proving invaluable in manufacturing. In many industries, however, certain parts or products must be made to exacting specifications. And 3D printing requires a costly and time-consuming separate inspection step after printing to ensure the part meets precise specifications.

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Meet the PRINCIPAL INVESTIGATORS

Jun Zheng and Frank Reinow
New Mexico Tech

Sigma Labs
It was amazing to have the resources of Sandia. The engineers at the Labs had the specific expertise in mechanical design that made our idea into a reality.

Jeff Collins
President and Owner

SKYNDEX LEVERAGED PROJECT

Through a leveraged NMSBA project, Jeff Collins brought together five companies seeking help on their new Skyndex skin fold caliper. The caliper, which is manufactured by Collins’ company, Welltec, Inc., measures body fat percentage.

The companies sought assistance with the caliper’s ergonomics and its increased measurement range. To work properly, the caliper jaws must maintain a consistent pressure throughout their entire range. The new caliper design measures more than twice the thickness of the old caliper, from an upper measurement of 55 mm with the old caliper, to a 130-mm capacity with the new caliper.

Keeping a consistent pressure throughout the increased range presents a unique engineering challenge. To tackle the challenge, NMSBA connected the companies with Clinton Hobart and his team of robotic experts at Sandia National Laboratories. The team members conducted analysis, solid modeling, and advanced simulations on the caliper. They then ran the caliper’s design through mechanical testing and evaluations, based on design improvements offered by the companies.

The companies received a final report detailing the Sandia team’s design and manufacturing suggestions, including making physical changes so that the caliper jaws face perpendicularly. Thanks to Sandia’s product design ideas and a new market, the companies expect to realize $3 million in benefits over the next five years.

Meet the PRINCIPAL INVESTIGATOR

Clinton Hobart
Sandia National Laboratories
Because of NMSBA's help, we are in the process of constructing a second building so that we can fabricate our own components that we currently buy from suppliers.

Dennis Grubb
Owner and Engineer

**SOLARO ENERGY**

Solaro Energy, Inc., invents, designs, and produces solar-powered lighting systems and attic ventilation systems. To grow his business with his current workforce and meet a monthly demand of 1,000 units, Solaro owner and engineer Dennis Grubb requested NMSBA's help with production workflow.

NMSBA brought Grubb together with Andrea Holling of New Mexico Manufacturing Extension Partnership. Holling began by training Solaro’s employees in Lean Manufacturing techniques, which enables companies to transition manufacturing from mass production to smaller, more efficient areas for building individual products.

Holling then worked with the employees to streamline production for the company’s attic fans. She helped them create a value stream map of their production process to identify wasteful steps. And together, they reorganized the area into a manufacturing cell as well as implemented a separating, sorting, shine, standardizing, and sustaining (5S) system and visual systems to quickly organize tools, information, and materials used in manufacturing.

Using the improved manufacturing process, Solaro was able to decrease product cycle time from 40 to 22 minutes and can now comfortably produce 1,500 units a month. The increased capacity surpasses the current demand for their product of 1,000 units per month and allows for immediate growth in sales. In addition, because of the improvements to its production process, Solaro reduced its expenses related to quality issues to nearly zero.

*Meet the Principal Investigator*

Andrea Holling
*New Mexico Manufacturing Extension Partnership*
By participating in NMSBA, we’ve been able to pursue cutting-edge technology for our mobile app, which has a direct correlation to getting more users and investors.

Molly Cernicek
Chief Executive Officer

SPORTXAST

Imagine using your smartphone to capture action-packed highlights of your favorite soccer match, football game, or any other sporting event and having them streamed real-time for fans, family, and friends to enjoy. The SportXast smartphone app does just that, allowing fans to capture, watch, and share real-time video highlights of local sporting events.

To further improve the sports app, SportXast’s Molly Cernicek was interested in adding automated tagging within its sport videos. She turned to NMSBA for help in identifying computer vision algorithms that could be integrated into the company’s app. The company’s needs aligned with the expertise of Steven Brumby, a computer vision expert at Los Alamos National Laboratory.

Steven Brumby explored several algorithms and advised SportXast of emerging, open-source computer vision tools that were affordable, cost-effective, and accessible to a small business.

SportXast evaluated Brumby’s suggestions to determine which tools fit best with their mobile app. Because of the help from Los Alamos National Laboratory through NMSBA, SportXast hired its own computer-vision developer to integrate these features into its app. The solution has put SportXast in a favorable market position to have powerful features and potential revenue sources.

Meet the PRINCIPAL INVESTIGATOR

Steven Brumby
Los Alamos National Laboratory
<table>
<thead>
<tr>
<th>Lab</th>
<th>Project</th>
<th>Description</th>
<th>Business Participants</th>
<th>Counties</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Sandia</td>
<td>Algal Nutrient</td>
<td>To determine the feasibility of recovering nutrients from residual microbial biomass after lipid extraction for biofuel production, Sandia National Laboratories developed methodologies to compare nutrient content and potential nutrient recycling from various cell lysing techniques including hexane extraction, sonication, supercritical liquid extraction, and photocellular techniques.</td>
<td>Algae Growing Systems, BioProcess Diagnostics, Inc, Energy Futures New Mexico, KD Consulting, New Solutions Energy Corporation, Pocagua Consulting</td>
<td>Bernalillo, Santa Fe</td>
<td>$100,000</td>
</tr>
<tr>
<td>Los Alamos</td>
<td>Atrisco Biofuels Exploration</td>
<td>Los Alamos National Laboratory identified a panel of algal strains that are likely candidates for sustainable growth in brackish water conditions based on biomass and lipid content. Los Alamos also reformulated the growth media using water chemistry data supplied by the small businesses and provided an assessment of the suitability of the participants’ water for algal biofuel applications.</td>
<td>Atrisco Companies, Benavidez Land and Cattle, Michelle Henrie, LLC, dba MHenrie Land Water Law</td>
<td>Bernalillo, Santa Fe</td>
<td>$40,000</td>
</tr>
<tr>
<td>Los Alamos</td>
<td>CAFO Web Modules</td>
<td>Los Alamos National Laboratory assisted the participating small businesses in developing technical specifications for new modules within their existing software that included a water rights and water use tracking module.</td>
<td>Brownrice Internet, Inc, CAFO Web Modules, Glorieta Geoscience, Inc, Perry Farms</td>
<td>Chaves, Taos</td>
<td>$79,000</td>
</tr>
<tr>
<td>Sandia</td>
<td>Catalyst for Tire Recycling</td>
<td>Sandia National Laboratories provided technical assistance to the small businesses by exploring routes to clean up and upgrade the residual oil from thermal treatment of tires. Catalysts that desulfurize oil or hydrogenate/dehydrogenate the oil to higher value-added products were examined. Sandia determined optimal reactor operating conditions and detailed characterization of the oil-based products.</td>
<td>Adherent Technologies, Inc, Alternative Industry Resources (AIR) Division of Sandia Development, Inc, LRC Trucking, Inc, Thoma Industrial Technology Services &amp; Applied Scientific Solution</td>
<td>Bernalillo, Valencia</td>
<td>$50,000</td>
</tr>
<tr>
<td>Sandia</td>
<td>Characterization of I &amp; W Brine Cavity</td>
<td>Sandia National Laboratories provided technical consulting and conducted a geophysical survey of the area of the brine cavity. Results from this measurement survey provided an estimate of the cavity’s borders, the amount of material dissolved, and the location of the center of the dissolution cavity.</td>
<td>Coley Burgess, Custom Farming, Dean Calvani Farms, Tidwell Farm</td>
<td>Eddy</td>
<td>$62,000</td>
</tr>
<tr>
<td>Los Alamos</td>
<td>Commercial Soil Mining</td>
<td>Los Alamos National Laboratory conducted field investigations and sample collections on and around the property of participating businesses. Laboratory analyses, such as quantitative x-ray diffraction and electron microscopy, were conducted to evaluate the suitability of the soil as a commercial soil amendment.</td>
<td>Anthony &amp; Cathie Hephner Ranch, John Hephner Ranch, JT Ranch, Sofia Land &amp; Cattle, LLC, Wagon Mound Ranch</td>
<td>Colfax, Mora, Union</td>
<td>$98,000</td>
</tr>
<tr>
<td>Los Alamos</td>
<td>Computational Methods for Bypassed Hydrocarbons</td>
<td>Los Alamos National Laboratory used the open source tools OpenTect, Seismic Unix (SU), and Madagascar as platforms for novel direct hydrocarbon filters. The assistance focused on proof of concept and delivery of tools that are tailored for use with New Mexico data.</td>
<td>Providence Technologies, Inc, Thrust Energy Corporation, Fka Sierra Oil &amp; Gas, Inc</td>
<td>Chaves</td>
<td>$40,000</td>
</tr>
<tr>
<td>Sandia</td>
<td>Dairy Energy &amp; Water</td>
<td>Sandia National Laboratories helped evaluate the use of waste heat within a dairy to provide the energy source for treating dairy lagoon water via an evaporator technology developed for the oil and gas industry. Sandia also evaluated pre- and post-dairy water treatment quality and equipment operation, equipment optimization to further enhance economics of the technology, and identification and quantification of the waste heat sources available.</td>
<td>Buster, LLC, Gator Hydro-Incineration, LLC, Western Environmental Management Group</td>
<td>Eddy, Sandoval</td>
<td>$60,000</td>
</tr>
<tr>
<td>Sandia</td>
<td>Information Assurance</td>
<td>Sandia National Laboratories assisted with knowledge transfer of emergent Internet Protocol version 6 (IPv6) and associated Internet modernization technologies. Sandia also consulted on IPv6 security methods and practices to address complex cyber security challenges and maximize internal infrastructure security and customer data integrity. An assessment of emerging advanced Internet services with broad application across diverse transport media and devices was also completed.</td>
<td>Crestino Telecommunications Solutions, Inc, Mescalero Apache Telecom, Inc</td>
<td>Bernalillo, Otero</td>
<td>$21,000</td>
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| Sandia       | Intense Photonic Flash        | Sandia National Laboratories explored the possibility of employing the solar tower facilities (i.e., solar furnace) to deliver intense photonic flashes to produce sintering in very thin films under varying conditions. Work was performed to embed solar-active nanoparticles in the matrix via dispersion of the particles in solution with subsequent deposition on a substrate in an effort to improve the stability of the dispersion. Thermal modeling was performed to quantify and predict the thermal effects of the photonic flash onto the Copper Indium Gallium Selenide (CIGS) solar cell and substrate layers. | Energy Related Devices, Inc.  
eQisolaris, Inc.  
McCune Solar Works, LLC | Bernalillo  | $33,000   |
| Los Alamos   | Irrigation Water Loss on NM   | Using historical data for the Canadian River watershed, Los Alamos National Laboratory outlined baseline statistics, input datasets formatted for computer models, identified causal factors that result in changes to river flow, and delineated factors that are not associated with drought conditions. A predictive regression model was created to establish the statistical relationship between monthly rainfall and river flow. Los Alamos also provided a demonstration of the forecast model. | Evans Farms  
McEwen Farms  
Perkins Land, LLC  
Phillip Box Farms  
Tucumcari General Insurance Agency, Inc. | Quay        | $91,000   |
| Los Alamos   | Manufacturing Microfluidic     | Los Alamos National Laboratory provided facilities and assistance for microfluiddic platform fabrication to aid the small businesses’ design optimization and integration with biosensors. | Focus Biomedical Integrative Enzymatics  
Vista Therapeutics, Inc. | Santa Fe    | $59,000   |
| Sandia       | Membrane                      | Sandia National Laboratories provided technical consulting to the companies regarding the feasibility of integrating a proprietary biocidal coating with polyamide membrane materials. Sandia then evaluated and tested the resulting products. | Aqua Access, LLC  
Aqua Membranes, LLC  
CleanSpot, Inc.  
fka Oligocide, Inc. | Bernalillo  | $30,000   |
| Sandia       | Off-Grid Pumping              | In order to optimize the participating small businesses’ off-grid pumping system, Sandia National Laboratories evaluated pump flow rates vs. fuel consumption, motor and generator combinations, air emissions, battery charge/storage, and PLC operations. | Melton Electric  
Mountain Propane Company  
One Stop Auto  
Remote Well Solutions, LLC  
Roy’s Welding and Wrought Iron, Inc. | Otero       | $100,000  |
| Los Alamos   | Ozone Efficacy for Dairy       | Los Alamos National Laboratory assisted the small businesses by evaluating the feasibility of utilizing ozone technology as a substitute for currently employed methods of clean in place (CIP) in the dairy industry. Los Alamos conducted a review of literature and relevant information to understand and focus the application of the technology and to identify information necessary to obtain CIP certification. The many regulatory requirements were assessed and summarized, along with the current understanding of ozone utilization in the food and beverage industries. As a result of this work, New Mexico Department of Agriculture has provisionally approved the deployment of a pilot scale test of ozone use for CIP. A summary report on current methods and available data on ozone use in industry was produced. This report also summarized a path forward for field-scale testing and the steps for obtaining approval for implementing ozone in CIP. | AgVentures, LLC  
Next Generation Ozone | Chaves      | $19,000   |
| Sandia       | Pattern Recognition           | Sandia National Laboratories provided consulting to apply state-of-the-art pattern recognition algorithms (software) to raw data generated by Safe Zone’s Suicide Bomber Detector. Sandia’s assistance provided a more accurate and consistent determination of threat/non-threat across a wider variety of targets. | Electro Science Technologies, LLC  
MacAleese Companies, Inc.  
The, dba Safe Zone Systems  
Roberson Construction Company, Inc. | Bernalillo  | $30,000   |
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<td>Los Alamos</td>
<td>Petaca REE Mining</td>
<td>The participating businesses required assistance to evaluate potential mining and recovery methods and the overall economic viability of rare earth element (REE) placer deposits in the Petaca Mining district. Los Alamos National Laboratory conducted field and laboratory investigations to assist the small businesses with resource evaluation and testing field-recovery methods in an effort to identify efficient, low-cost ore processing for the materials found in the Petaca district. Los Alamos prepared a report summarizing the mineralogic and geochemical data and provided a resource assessment of the study areas.</td>
<td>Aroma Fresca, Inc. Geosights Consulting Mineral Exploration Location Services, LLC Prospect Geotech</td>
<td>Bernalillo Chaves Sandoval</td>
<td>$59,000</td>
</tr>
<tr>
<td>Sandia</td>
<td>Radar, EMI &amp; Rfi Films</td>
<td>Sandia National Laboratories provided technical consulting to characterize materials, design RF absorptive treatments, and evaluate the treatments with the goal of improving the radar and EMI performance of the participating companies' small, portable shelters.</td>
<td>BMT USA, LLC Lifeline Building Sciences, LLC Litehouse International, Inc.</td>
<td>Bernalillo</td>
<td>$22,000</td>
</tr>
<tr>
<td>Los Alamos</td>
<td>Ranchvale</td>
<td>Los Alamos National Laboratory identified renewable development options that meet Air Installation Compatible Use Zone (AICUZ) requirements and analyzed new technologies that offer greater compliance potential. This study included the review of AICUZ guidelines, selection of compatible renewable technologies, and modeling of the options. Los Alamos also assisted the small businesses by assessing renewable sellback options for Cannon Air Force Base and other potential purchasers and evaluating a range of energy sellback scenarios. A final report summarizing AICUZ-compatible renewable configuration (technology, locations, and energy sales options) was produced.</td>
<td>Douglas Reed Farm Frank Blackburn Farm TeePee C, Inc. Wall Farms</td>
<td>Curry</td>
<td>$56,000</td>
</tr>
<tr>
<td>Los Alamos</td>
<td>Real Green Construction</td>
<td>Los Alamos National Laboratory performed a cost-benefit analysis (CBA) of the Real Green Building System (RGBS). Features of this system include fire suppression, gray water reclamation, solar hot water heating, solar radiant floor heating, and photovoltaic energy. The CBA addressed payback period of each feature, and also the value of the entire RGBS package applied to an individual home as well as at a subdivision level. Performance of the innovative features was compared against standard industry practice to identify relative efficiencies. Cost of materials, installation, and maintenance over time were tabulated. Comparison of performance combined with cost allowed payback period to be estimated. The steps in the CBA methodology included scenario definition, data gathering and subject matter expert interviews, economic analysis, and report preparation.</td>
<td>All About the House Homesteaders Realty Real Green Building Systems (RGBS) Solar Works</td>
<td>San Juan Sierra</td>
<td>$79,000</td>
</tr>
<tr>
<td>Sandia</td>
<td>Skyndex Redesign</td>
<td>Sandia National Laboratories provided the participating businesses with design assistance in the form of consultation, solid modeling, and advanced simulations. Sandia also provided mechanical testing and evaluation expertise regarding design improvements made by the companies and delivered a final report detailing design and manufacturing considerations for the production of the new Skyndex skin fold caliper.</td>
<td>Crestline Plastics, Inc. Electronic Workmanship Standards, Inc. (EWS) Southwest Design and Prototyping TCS Industries, Inc. Welltec, Inc.</td>
<td>Bernalillo</td>
<td>$44,000</td>
</tr>
<tr>
<td>Los Alamos</td>
<td>Solar Project Development</td>
<td>Los Alamos National Laboratory leveraged results of a previous renewable site assessment study to assess key features of solar plant options. Los Alamos applied standardized methods to quantify the technical feasibility, operational value and market potential of a concentrated solar plant (CSP), and provided technical status briefings. A final report summarizing recommended CSP plant configuration (sizing, operational issues, and energy sales options) was produced following the study.</td>
<td>Johnny Reid Farms Jurva Farms Ogden Farms Oscar Vasquez Farms</td>
<td>Eddy</td>
<td>$65,000</td>
</tr>
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</table>
| Sandia  | Subsea Modeling       | Sandia National Laboratories provided design assistance to the participating small businesses by utilizing the expertise of its technical staff in the configuration, coding, operation, and data analysis of OrcaFlex software. Sandia modeled the Ocean Hydropower System, optimized the mooring system, and transferred the technology to the New Mexico companies. Upon completion of the work, Sandia submitted a final design and project report. | Atmocean, Inc.  
Reytek Corporation                                             | Bernalillo  
Santa Fe                                              | $30,000  |
| Sandia  | Thin Film             | Sandia National Laboratories provided technical consulting regarding refinement of aluminum coatings of polycarbonate films via expertise in unique deposition systems and low-stress coatings. The objective was to collaboratively produce a stress-free, pinhole-free coating process based on publicly available methods and transfer this knowledge to the companies. | R & A Technical Manufacturing Industries (TMI)               | Bernalillo  
Valencia                                          | $30,000  |
| Sandia  | Vertical Turbine      | Sandia National Laboratories provided technical consulting to the participating small businesses in the form of computational fluid dynamics (CFD) and simulation that was used to determine the efficiency of a novel vertical-axis wind turbine (VAWT) design. | B & H Ranch  
Choate Welding & Supply  
Make-A-Buck Construction and Maintenance Company  
T4 Cattle Company, LLC | Quay                                         | $42,000  |
| Los Alamos | Vitrectrete          | For mixtures of fly ash and various additives, including sand and bottom ash, Los Alamos National Laboratory produced castings that can be used for 28-day strength and freeze-thaw cycling performance, as well as tomography of samples as-cured and cycled. Los Alamos also produced SEM cross section images for physical structure, and modeled the initial material using NIST Virtual Concrete Lab. For each mixture, Los Alamos scientists attempted to determine the features that optimize performance. A final report describing the full set of results and expected optimal composition of each mixture was produced. | Concrete, Aggregate, and Asphalt Testing, LLC  
Lopez & Sakura, LP  
Vitre International, LLC | San Miguel  
Santa Fe                                              | $26,000  |
| Sandia  | Wireless Protocol     | Sandia National Laboratories provided technical consulting to the participating companies regarding the viability of incorporation of wireless data transfer for their various product applications, including design consultation and review and testing of components produced by the companies. The FreeFall circuit boards have been built and are currently being tested. The other two circuit boards are waiting for testing results from the FreeFall boards before they are built (so that problems found in the FreeFall boards can be avoided in the other two boards). | ExerPlay, Inc.  
Maimonides Sleep Arts & Sciences, Ltd  
Marla Bell, LLC  
ParkLab, The Quality Sleep Solutions, Inc.  
ZBOX, LLC                                               | Bernalillo                                          | $73,000  |
INDIVIDUAL PROJECTS

Chaves
AerSale, Inc.
GeoScience Technologies
Rich Glo Products, Inc.

Cibola
Mt Taylor Machine, LLC
Mt Taylor Millworks

Curry
Farming Services Company of New Mexico dba Farmko
Lay Land and Cattle Co. dba Lay Wind Farm
Marvin Estes
Ryan White
Sena & Associates
Southwest Cheese Company, LLC

Dona Ana
Alma Energy Group, LLC
Asymptopia Software
Clean Code, Inc. dba CCI Solar dba 3S Solar
Dynamic Core
Enchanted Woodworks, LLC
Glaz-Tech Industries
Himalayan, LLC, The
Like CASH Global Corp dba OneEighty aka OneEighty Global Corp.
Mte Music
R-Qubed Energy, Inc.
Sapphire Energy, Inc.
Shouman Associates Engineering
Stanco Metal Products

Eddy
Accu-Rite
Blue Springs Ranch
Dane Williams Farms
Durham & Associates
Jahva House, The
JSJ Farms
Murrill Electric, LLC
NeuroTechnology Device Manufacturing
North Star Investments / Norcon Rail
Otsi Mutual Domestic Water and Sewage Company
Taddy Healthcare Services, LLC

Grant
Life Genome Project, LLC

Guadalupe
Big Rig Truck Service
Kelly Green Energy
Milagro Ranch Resources
Thompson Cattle Company

Harding
Ute Creek Cattle Company

Lincoln
L-Bar Resources, LLC
Y Bar Ranch, LLC

Los Alamos
Alpha Analytics, LLC
Fraser E. Goff
Heppolt Wind, LLC
Hypwr, LLC
MIMCRI, LLC
Mustomo, Inc.
Samitaur Medical Technologies, LLC
SportXart
Sun Energy, LLC
Tibbar Technologies

Luna
Compass Manufacturing Services Division Fence Company

McKinley
Hydro Resources, Inc. aka HRI Energy
Navajo Spirit Southwestern Wear

Mora
Union Land and Grazing Company
Worldwide Comfort Solutions, LLC aka Upright Sleeper

Quay
Box Insurance Agency
Heckendorn Ranch

Rio Arriba
Apache Fire Industries aka Asher
Fire Hose Company
Black Mesa Winery
McFarland Instrumentation Services, Inc.
Rincon Blanco Veterinary Hospital

Roosevelt
DairiConcepts
Sunland, Inc. / Sunland Valencia Peanuts

San Juan
Air Star, Inc.
A-Plus Well Service, Inc.
Choman Enterprises
Compressco Partners, LP
Glenhasbah Renewable Energy Technologies, Inc.
Haulrite of Four Corners, Inc.
Henry Production, Inc. (HPI)
Jack’s Plastic and Welding, Inc.
James R. Dennis Associates
MuleShoe Engineering
Nott, Ltd. / Not Limited, LLC
One Source Service
Peak Power Manufacturing aka Premium Power Solutions
PESCO, Inc.
R & T Holdings, LLC
Surefi e Burner Management Systems
Terra Tersus, LLC

San Miguel
Environmental Building Sciences, Inc.
Old Wood, LLC
Randy Huston Ranch

Sandia
Carter Holdings, LLC
Cordova & Sons Tire Recycling & Manufacturing aka Cordova & Sons Tire Disposal & Recycling
Customizabooks, LLC
Data Center Transitions, Inc.
Enchantment Organics
Focus, LLC
Insight Lighting
Inspyrd Products Corporation
KCVI Corrosion Services
Mesa Top Excavations, LLC
Pueblo of Zia
Roadrunner Healthcare & Navigation
Slider Structure Systems, LLC
Vacsmart, LLC
WEN Engineering

Santa Fe
Action Estate Pros, LLC
Advanced Ports, LLC
Aerblock Enterprises, LLC
Aeroslenz
AM Energy
AttoLight Group, The
Baraclough & Assoc. PC
Batterade, LLC
Center for Orthopaedic and Sports Performance Research, Inc.
Decisive Systems
Dixon, LLC
Duel Brewing Company
Environmental Geochemistry, LLC
Evolving Energy
Fault Tolerant Technology
Flow Sciences, Inc.
GO Electric, LLC dba GO Solar
Good Sawyer Development, LLC
Healthy Living Spaces
Herbs, Etc., Inc.
iBeam Materials, Inc.
Santa Fe (cont.)
- Innovative Organic Solutions Intl., Inc.
- Intermodal International & Associates, LLC
- Kreger Design Build, LLC fka Rain Vessels
- Marty’s Meals
- Mesa Tech International, Inc.
- MS Flawless Goddess, LLC
- National Water Services, Inc.
- New Mexico Algae, LLC
- New Water Innovations
- OpenEye Scientific, LLC
- PedBiometrix, LLC
- Phase One Ventures
- Phyteau Functional Foods
- Positive Energy Solar
- Pristine Natural, Inc.
- Radiation Detection Solutions, LLC

Retriever Technology, LP
- Rio Grande Neurosciences
- Santa Fe Brewing Company, Inc.
- Sigma Labs dba B6 Sigma, Inc.
- fka Beyond6 Sigma
- STAR Cryoelectronica, LLC
- Sumner & Lawrence Limited fka Sumner Associates, Inc. dba Sigma Labs
- Syntoflia
- Ungar
- VB Enterprises

Socorro
- Animal Haven Veterinary Clinic of Socorro, PC
- Armijo Farm
- Nu-H2O, LLC
- Solaro Energy, Inc.

Taos
- Biofuels & Energy, LLC
- Old Masters Maroger
- Paradise Power Company, Inc. dba PPC Solar
- Private Label Select, Ltd Company
- Taos Mountain Energy Foods, LLC
- Taos Ventures in Fiber Optics, LLC
- Vapour Organic Beauty

Torrance
- EarthGift Group, The dba EarthGift Herbnals
- KemKey, LLC
- Titan Aerospace Holdings, Inc.

Union
- Amistad Energy

URBAN INDIVIDUAL PROJECTS

Bernalillo County
- SOSAccess, LLC
- ABQ Machine Works
- Affordable Solar Installation, Inc.
- Alcone Performance Products, Inc.
- Alternate Route, LLC
- Angstrom Thin Film Technologies, LLC
- Apple Canyon Gourmet Company
- Applied Technology Associates (ATA) / A-Tech Corporation / ATA Sensors
- Armed Response Team, Inc.
- Arssila
- Azano Pharmaceuticals
- Backeners
- Bio-Detector, LLC
- Biomoda, Inc.
- Biophagy
- Black Mesa Coffee Company, Inc.
- Blur to Focus Productions
- Bocadillos
- Bogue Machine Company
- Boomstixs, LLC
- Brenda’s Perfect Brittle
- Carl Hime and Associates, LLC
- Century Sign Builders
- Chase Ergonomics
- Continental Machining Company
- Dawood Furniture
- fka Ramblin Wood, Inc.
- Definite Bone, LLC
- Desert Paper & Envelope Company, Inc.
- Diversified Tooling Corporation
- Ducks in a Row, Inc.
- Environmental Restoration Group
- Excel Manufacturing
- Fiore Industries, Inc.
- Geaux Gluten Free
- Gluten Free Gourmet Foods, Inc.
- Halcyon Wellness Initiative, LLC
- HoldMyTicket
- HT Microanalytical, Inc.
- IC Tech Incorporated
- Imagars, LLC
- Improve Group, The
- Innovasic, Inc.
- Innovative Technologies and Solutions Global Trading Company
- Integrated Deposition
- Solutions dba IDS
- Integrated Machining Company
- Jaguar Precision Machine Corporation
- Lotus Leaf Coatings, Inc.
- Machining Solutions, LLC
- Management Sciences, Inc.
- MARPAC Medical Manufacturing
- Masha Manufacturing, Inc.
- Miners Vitae, LLC
- Motorcycle Taxi Service LLC dba TJ’s Motorcycle Taxi Service
- MVD Express
- NanoPore, Inc.
- OGB Architectural Millwork, Inc.
- OSMO BioPharmaceutical Manufacturing
- Plectone, LLC
- Pressure Analysis Company
- Pure Water Technologies, LLC
- PureColor, Inc.
- Qnergy Corporation
- Radiant Technologies, Inc.
- RadiGen Engineering, LLC
- Real Rock Replications, LLC
- Red Rock Distributing Co., LLC
- fka Red Rock Roasters
- Robocasting
- Sage Technology Partners, Inc.
- Salteydogg Metal Fab
- Senior Scientific, LLC
- Sierra Peaks
- SoilCo, LLC
- Sourcery, Inc.
- Spa Enrichment Strategies dba My Sacred Fig
- Sypro, Inc.
- Strategic Engagement, LLC
- Stride, Inc.
- Sun Sign Soap Company
- Sustainable Planet Solutions (SPS)
- TEAM Technologies, Inc. fka TEAM Specialty Products
- TransMix Safe Lock
- Valley Gutz Goodz
- VanDevender Enterprises, LLC
- fka VanDevender Enterprises
- Viatech Global
- Vibrant Corporation
- Vida Pharmacy
- Walker Hi-Tech, Inc.
- Welch’s Boiler Service, Inc.
- Whispering Spirits Alpacas dba Whispriet
- WOOD2GREEN
- You & Me Productions
- Z-Coil Footwear aka Z-Tech Footwear
- Zymostat, LLC
Thank you to all the small businesses for participating in NMSBA and for creating jobs and economic wealth for New Mexicans.

Thank you to all Los Alamos and Sandia national laboratories’ Principal Investigators who applied their expertise and knowledge to help New Mexico small businesses solve their technical challenges.

Thank you to the Governor’s office and the New Mexico State Legislature for supporting the Laboratory Partnership with Small Business Tax Credit Act.

Thank you to the Advisory Council for their leadership, advice, and guidance in support of NMSBA.

Peter Atherton
Sandia National Laboratories

John Chavez
New Mexico Angels

Robert Dye
Los Alamos National Laboratory

Stephen Guerin
Simtable

Charles Hanley
Sandia National Laboratories

Steven Hernandez
Law Office of Steven L. Hernandez, PC

Gilbert Herrera
Sandia National Laboratories

David Janecky
Los Alamos National Laboratory

David Meurer
Armed Response Team, Inc.

Kim Sanchez Rael
Flywheel Ventures

Michael Roach
Entrepreneur

Suzanne Roberts
Technology Ventures Corporation

Daniel Sanchez (Ex-Officio)
U.S. DOE / NNSA Sandia Field Office

Belinda Snyder
Los Alamos National Laboratory

Patrick Vanderpool
Tucumcari Economic Development

Thank you to the Emeritus Advisory Council members—Jim Brockmann, Mike Byrnes, David Griscom, Terrence Kamm, Jim Manatt, Kevin McMahon, Bob Sachs, and Kurt Steinhaus—for their continued support of NMSBA.

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

Becky Coel-Roback / Los Alamos
Marisa Durfee / NM MEP / Sandia
Sharon Evans / Sandia
Andrea Holling / NM MEP / Sandia
Mariann Johnston / Los Alamos
John Martinez / NM MEP/ Sandia
Genaro Montoya / Sandia
Leigh Schutzberger / NM MEP / Sandia
Kimberly Sherwood / Los Alamos
Janelle Ulibarri / Los Alamos
Linda von Boetticher / NM MEP / Sandia
**SUCCESS STORY VIDEO**

*Kids with Disabilities Inspire a Musical Instrument Anyone Can Play*

Musicode Innovations, a 2011 success story, brings to life the vision of a company using Sandia National Laboratories technology to make the world a better place for the disabled. It’s a story of commitment, partnership, and real people solving real problems. In the words of a Sandia principal investigator and an entrepreneur who worked together to achieve a common goal, this video highlights NMSBA at its best.

To watch the video, scan the QR code or go to www.sandia.gov/partnerships.
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