NMSBA
Los Alamos National Laboratory
Sandia National Laboratories

2019

PERSPECTIVES

ANNUAL REPORT

Dear Governor Lujan Grisham and New Mexico State Legislators,

We are pleased to present the 2019 Annual Report for the New Mexico Small Business Assistance (NMSBA) Program. This report highlights just a few of the hundreds of successful projects from 2019 and quantifies the overall performance of NMSBA, both for the past year and since its inception in 2000.

During 2019, a total of 308 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 $4.7 million of national laboratory expertise and resources to help small businesses in 23 counties overcome technical challenges and grow.

The success stories in this report demonstrate the impact of NMSBA on small businesses from various industries in various counties around the state. Here are just a few points from some of the featured stories:

- A business received data to better understand the effectiveness of their zeolites in treating wastewater, leading to 10% company growth.
- Improvements made after evaluating processing and packaging techniques helped a company boost their sales, win a marketing grant, and expand their product line.
- A company and a group of ranches received assistance with prototyping a GPS-enabled ear tag that will provide remote monitoring of beef cattle at pasture resulting in over $100,000 in additional funding.

In 2019, $4.7 million of national laboratory expertise and resources helped small businesses in 23 counties.

Two projects received the *Honorable Speaker Ben Luján Award for Small Business Excellence* for demonstrating the most economic impact. Navajo Spirit Southwestern Wear has increased production and sales of their clothing line and added employees after receiving guidance on increasing automation. Guardian Sensors, after receiving assistance with testing of their safe in-line solar connectors, won prize money, provided research opportunities to New Mexico universities, and hired a new engineer.

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 $67.2 million in technical assistance to 3,051 businesses, enabling 8,778 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,

MARIANN JOHNSTON
Los Alamos National Laboratory

JACKIE KERBY MOORE
Sandia National Laboratories

Honorable Speaker Ben Luján AWARD for Small Business Excellence

KENNETH G. BLEMEL
Vice President

NIKOLAS BERRY
Electrical Engineer

CHARMAINE TUNELL
Business Development Director

MICHAEL SPACH
Mechanical Engineer

KENNY D. BLEMEL
Program Manager

BERNALILLO COUNTY

I highly recommend NMSBA because this organization has access to institutions like the national laboratories, which can help improve and validate important technologies, particularly those designed to provide alternative energy sources around the world.

KENNY BLEMEL
Program Manager
Guardian Sensors, Inc.

GUARDIAN SENSORS

As fossil fuel resources diminish, alternative technologies like solar continue to expand. Since 2008, solar installations in the United States have grown 35 fold to an estimated 62.5 gigawatts—enough energy to power 12 million homes.

Interestingly, solar arrays used to capture solar power do not have reliable built-in protection against electrical arc-faults caused by corrosion or improper installation that could cause fires. To address this problem, Guardian Sensors, Inc. (GSI) developed electrical, in-line connectors that automatically predict and prevent photovoltaic arc-faults, before they can ignite electrical fires.

To validate this technology, Kenny Blemel reached out to NMSBA, which partnered him with Ken Armijo at Sandia National Laboratories. Armijo and his team took a three-tiered approach to improve and validate the company's novel connectors that proactively minimize the possibility of electrical fires caused by corrosion or other malfunctions. First, the team helped design a high-fidelity prototype to activate at temperatures above 85°C (185°F). Second, they tested and validated the pressure required to separate the connector, which extinguish a fire-inducing arc. Third, the prototype was tested to determine that it worked reliably as designed.

As a result of this technical assistance, GSI received $225,000 in prize money and vouchers from the Department of Energy's American-Made Solar Prize and was able to provide research opportunities to the University of New Mexico, New Mexico State University, and New Mexico Tech. The company is also negotiating with private investors and companies who have expressed interest in licensing the technology. GSI has also hired a recently graduated mechanical engineer from UNM.

KEN ARMIJO
Sandia National Laboratories

ECONOMIC IMPACT RECOGNITION

Two projects from 2019 that achieved outstanding innovations through NMSBA received the annual *Honorable Speaker Ben Luján Award for Small Business Excellence* for demonstrating the most economic impact.

Guardian Sensors, after receiving technical assistance from NMSBA with testing of their safe in-line solar connectors, has won $225,000 in prize money and vouchers, provided research opportunities to New Mexico universities, and hired a new engineer.

Navajo Spirit Southwestern Wear increased production by 18% leading to a 48% increase in sales of their clothing line. They were also able to add new employees after receiving guidance on increasing automation at their business.