TRR

Technology Readiness
INITIATIVE

FY2025
PROGRESS
REPORT

43

PROJECTS

24

LICENSES

ACTIVITIES SINCE THE INCEPTION OF THE TRGR PROGRAM IN JULY OF 2020.

16

CRADAS


SANDIA NATIONAL LABORATORIES


LOS ALAMOS NATIONAL LABORATORY

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Opening Remarks

TRGR allows local small businesses to access the knowledge of leading scientific experts in New Mexico. With each project approved, innovative technologies are released, jobs are created, and economic growth in New Mexico is achieved. This collaboration between the public and private sector shows the dedication of New Mexico to find paths forward for our resident businesses to achieve success.

STEPHANIE SCHARDIN CLARKE
Cabinet Secretary
Taxation and Revenue Department
State of New Mexico

With every new project, TRGR proves to be a truly unique tool to support the advancement of New Mexico innovation. Enabling businesses to work hand-in-hand with our national labs' extraordinary pool of expert scientists accelerates product development, fuels job growth, and strengthens our economy.

NORA MEYERS SACKETT
Director
Technology and Innovation Office
Economic Development Department
State of New Mexico

Dear Governor Lujan Grisham and New Mexico State Legislators,

We are pleased to present the FY2025 Progress Report for the New Mexico TRGR Technology Readiness Initiative.

Although it's only been a few years since it began, the TRGR Program has already assisted 36 New Mexico companies with 43 TRGR Projects. Twenty-four companies licensed technology from Sandia or Los Alamos national laboratories. Sixteen are engaged in a Cooperative Research and Development Agreement with one of the two New Mexico national laboratories.

The interest in and demand for the services provided through the TRGR Program has continued to increase as more and more businesses in our state learn about this unique program. We're beginning to see some real impact from TRGR on businesses, and that translates to economic impact for New Mexico.

TRGR was designed to assist New Mexico companies with important tasks that help move national laboratory technology closer to market introduction. With their specialized expertise and facilities, the Labs are providing services that are not otherwise available in the private sector.

Companies that receive assistance with tasks like prototype development and technology validation are achieving milestones. This results in investors taking notice and making investments that allow companies to move their products toward market introduction, and hire more people for high-paying jobs.

In this report, you'll read about a number of successful completed TRGR Projects and see a listing of Projects still underway. You'll find out about the progress that New Mexico companies are making in maturing early stage technologies. Here are two examples, one from each New Mexico national laboratory:

- A company licensed MagTag technology and partnered with Sandia to further move it toward market introduction. Based in part on the success of their TRGR Project, they now have more than $2 million in investment and the company is adding new employees, including two former Sandians.
- A company's vesicular drug delivery platform is being developed to carry therapeutics to cells. Access to advanced resources at Los Alamos through TRGR is helping the company slash the time needed for laboratory experiments, reducing the cost of project development.

The TRGR Program helps make technology market ready. It provides New Mexico businesses with access to the expertise and facilities available at New Mexico's national laboratories. The state of New Mexico, by supporting TRGR and other technology transfer programs, gives our state's businesses a unique benefit that helps build and diversify New Mexico's economy and create more jobs.

DAVID KISTIN
Sandia National Laboratories

CANDICE SIEBENTHAL
Los Alamos National Laboratory

Program Overview

Moving laboratory-developed technologies to market is tough. The TRGR Technology Readiness Initiative is a joint program of Sandia and Los Alamos national laboratories to help companies successfully cross the "valley of death" by leveraging laboratory research capabilities.

TRGR is focused on technology maturation for New Mexico companies that have licensed technology from the New Mexico national laboratories, or are engaged in a Cooperative Research and Development Agreement, or CRADA, with one of the labs.

When a company licenses lab technology, it is generally not ready to go to market. Although the technology may have a lot of potential for becoming a much-needed product or service that can help individuals and industry, a lot of work needs still to be done before a product is launched.

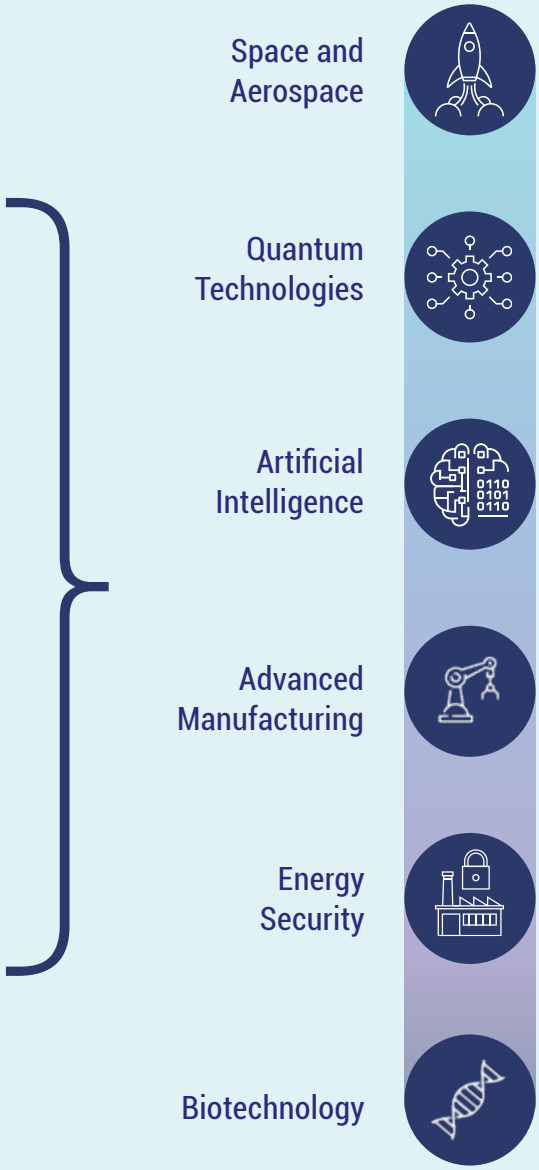
That's where TRGR comes in. The Program helps overcome the challenges early stage companies face, assisting with prototype development and technology validation, moving the companies closer to gaining investment funding, introducing their products to market, and hiring new employees.

With TRGR, eligible New Mexico businesses can work alongside a national laboratory researcher to advance their technology toward a commercialization milestone, with funding up to $150,000 per year per company.

The TRGR selection process includes the TRGR Project Review Board, an independent committee comprising members from state agencies, industry, academia, and government laboratories. Appropriate industry and subject matter experts are brought in to review each potential TRGR Project. These experts work with staff from the New Mexico Economic Development Department to review proposals and ensure that the planned Project has a good chance of pushing the technology further on the path toward market introduction.

The TRGR Initiative Enables Companies to:

- Jump-start product development with testing and evaluation
- Validate and de-risk technology to increase investor interest
- Access advanced demonstration services and prototyping for new product launch, market entry, and scaling for manufacturing purposes



Technology Readiness

TRGR Facts

TRGR was created in July 2020 by the two New Mexico national laboratories in partnership with the state of New Mexico.

TRGR was designed to address the significant capital investment and research and development effort required to mature technology to a place where it is market ready.

TRGR was developed to spur innovation, create and expand regional businesses, and increase economic wealth.

TRGR is funded through the Technology Readiness Gross Receipts Tax credit.

TRGR provides unique work not available in the private sector.

TRGR funding for each laboratory is capped at $1 million per year.

What is Technology Readiness?

Technology Readiness is a method of assessing the maturity of technologies. There are many steps required to take a product from the early stages of the development process to proof of concept, product demonstration, manufacturing, and distribution. The TRGR Technology Readiness Initiative helps New Mexico companies move their products from concept through market introduction.

Moving Toward Market Introduction and More Jobs

The efforts of TRGR have a ripple effect. Even what might seem like a small move, from a TRL of 2 to a TRL of 4, means that a company is now ready to attract the interest of investors and secure capital. With investment, the company can continue down the path toward manufacturing. This will result in a growing and successful company that can hire more and more people for high-paying jobs in New Mexico.

Defiant Technologies

AGREEMENT TYPE: LICENSE

Defiant Technologies specializes in the design and production of portable gas chromatograph chemical detectors and sensors.

Defiant licenses a tortuous path pre-concentrator from Sandia National Laboratories that is at the heart of all of its gas chromatographs. The products are sold to the petroleum industry and environmental regulators, including state of New Mexico regulators.

A TRGR Project with Sandia is helping Defiant improve the pre-concentrator so its gas chromatographs can operate better and remain accurate in the field under high humidity or wet conditions.

Sandia Researcher Phil Rocco Miller and his team used their experience, skills, and specialized equipment to assist the company with developing a low-cost amorphous carbon film with small pore structure that can coat the pre-concentrator and not absorb moisture.

The small company greatly appreciated gaining access to assistance with its technology maturation process. During the Project, the team successfully created the film and coated sample devices, moving the TRL of the new film from 1 to 3. The next step will be to refine the manufacturing process, better controlling deposition amounts and temperatures so it can be moved to prototype production.

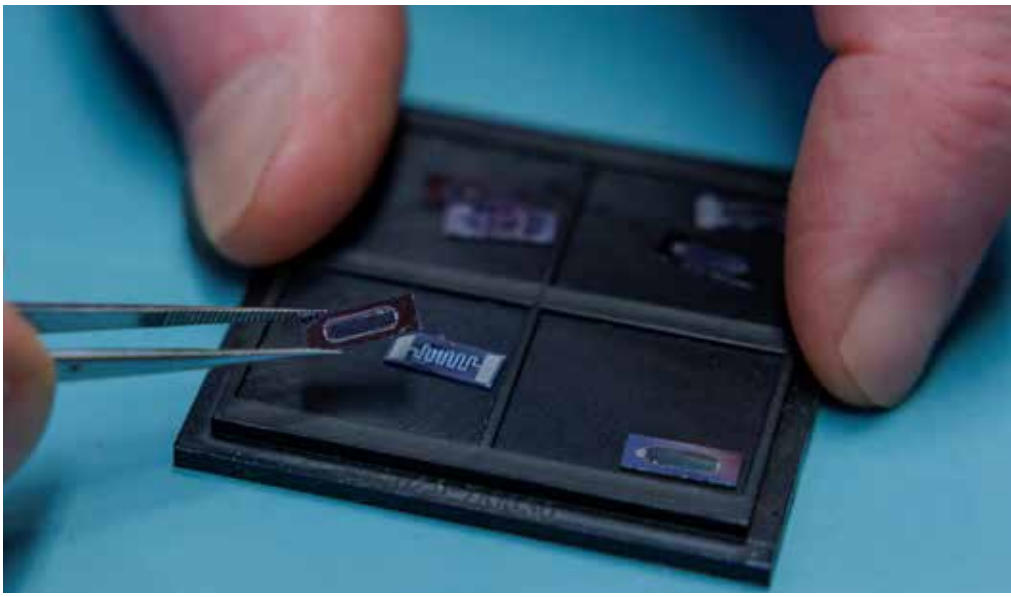
The partnership has enabled Sandia and Defiant to collaborate on other efforts to commercialize Sandia's sensing technology. Defiant is looking at using the new Sandia carbon film on a special instrument they build for the U.S. Army. Creating more robust products for multiple applications and industries will give the company a competitive advantage for their portable detectors and sensors.

*Meet the **Principal Investigator***

PHIL ROCCO MILLER
Sandia National Laboratories

We are pleased with the results of the TRGR Project and the excellent working relationship we developed with Sandia. We are looking forward to working with the Labs again in the future.

JOHN HOGAN
Owner / Senior Scientist
Defiant Technologies Inc.



Top: Tortuous path pre-concentrator licensed by Defiant from Sandia that was improved with amorphous carbon film in the TRGR Project.

Right: Owner and Senior Scientist John Hogan and Lead Design and Production Engineer Robert Sanchez in the Defiant Lab production area.

Eden Radioisotopes

AGREEMENT TYPE: CRADA

Eden Radioisotopes is developing a small commercial reactor and hot cell facility dedicated to the production of medical radioisotopes used in diagnostic imaging.

Eden's primary product will be Molybdenum-99. Its daughter isotope, Technetium-99m is the most widely used radioisotope in nuclear medicine diagnostics. Shortages of these isotopes are causing concern, so an economically viable way to make them in the U.S. is needed.

A TRGR Project with Los Alamos National Laboratory and its Fabrication Manufacturing Sciences (Sigma-1) team is helping the company develop a manufacturing process for the metal foil fuel needed for its reactor. Eden's proprietary reactor uses technology licensed from Sandia National Laboratories.

Los Alamos Scientist Cody Miller and his team successfully hot rolled and cold rolled a full-size depleted uranium foil to prototype size from a single ingot. After the foil was rolled down to about ten-thousandths of an inch, it was heat treated and grain size and structure were measured. The prototype foil fuel met required specifications and helped advance the TRL for the fabrication of uranium foil.

Another TRGR Project is planned to continue the uranium foil fuel development work and advance the TRL from 3 to 4.This additional work will help Eden develop its fuel qualification program for evidence that can be provided to the Nuclear Regulatory Commission showing that uranium foils can be produced at a high quality level and with demonstrated conformance to specifications when fabricated into targets.

*Meet the **Principal Investigator***

CODY MILLER
Los Alamos National Laboratory

The TRGR Project gave use the ability to advance our nuclear reactor fuel design by partnering with experts in the field of metallurgical science at the Los Alamos National Laboratory Sigma facility. The Sigma team was great to work with!

ED PARMA
Chief Science Officer
Eden Radioisotopes LLC

Top: Los Alamos Scientist Cody Miller, Eden Chief Science Officer Ed Parma, Eden Nuclear Engineering Director Paul Helmick, and P. Dunn & Company Technical Advisor Paul Dunn at the Los Alamos Sigma Facility.

Right: Los Alamos Scientist Cody Miller demonstrating the uranium metal rolling process at the Sigma Facility.

Integrated OffGrid

AGREEMENT TYPE: LICENSE

Integrated OffGrid, dba GridFlow, is a startup company developing a lithium-sulfur flow battery based on technology licensed from Sandia National Laboratories.

These batteries are to be used as long-duration energy storage, from 10 to 100 hours, for homes, microgrids, and eventually grid-scale systems. The flow battery design separates the anode and cathode to provide safety, energy density, and scalability.

A TRGR Project with Sandia allowed GridFlow to access the in-depth knowledge of the technology's inventors and collaborate to advance this innovation toward the goal of higher energy density, moving close to 100 hours of discharge, and improving cycle life from 50 to 400 cycles.

Using information provided by Sandia about materials and electrolytes, GridFlow was able to construct its first battery at its new facility in the Sandia Science & Technology Park. The company's lab space was funded by a grant of $300,000 from the state of New Mexico's Advanced Energy Award program.

At the start of the Project, the battery scale was measured in centimeters and now a 100 times larger demonstration unit has been constructed and displayed at tradeshows. Also as a result of TRGR, the company has grown from three full-time employees to six, and the TRL has moved from 3 to 4.

Currently, GridFlow is negotiating a pilot project to take place in New Mexico later this year. The company has applied for another TRGR Project to further develop the technology and is looking into various sources of non-dilutive funding before building a production facility.

*Meet the **Principal Investigator***

LEO SMALL
Sandia National Laboratories

TRGR enabled us to collaborate directly with the Sandia inventors of this novel battery technology to bring it out of the Labs and make substantial progress toward commercialization.

CHUCK CALL
CEO
Integrated OffGrid
dba GridFlow Inc.

Top: GridFlow R&D Technician Rudy Parra adds an electrode to a 3D printed battery component.

Right: Charles Call helps demonstrate a battery prototype while it is undergoing a test inside the company's glovebox at its facility in the Sandia Science & Technology Park.

Kairos Power

AGREEMENT TYPE: CRADA

Kairos Power was founded to accelerate the development of an innovative nuclear energy technology, a fluoride salt-cooled high-temperature reactor (KP-FHR).

Kairos is now producing fuel for its Hermes demonstration reactor, the first nonwater-cooled reactor to be approved for construction in the U.S. in over 50 years.

Hermes and KP-FHR use TRISO (tristructural isotropic) annular fuel pebbles. Kairos engineers prototyped annular fuel pebbles with non-nuclear materials at the company's Albuquerque testing and manufacturing campus.

A TRGR Project is enabling Kairos to scale up the fuel fabrication process at Los Alamos National Laboratory's new Low Enriched Fuel Fabrication Facility, which is in the process of being approved for handling enriched uranium. LEFFF serves as a resource for U.S. nuclear energy businesses, large and small, filling the gap between R&D-scale and commercial-scale fuel production.

Before placing Kairos' equipment in LEFFF as the facility's first customer, Los Alamos Scientist Tim Coons needed to evaluate the equipment, its utility demands and footprint requirements, balancing those with the facility's space and utility capacity while meeting safety requirements. The result was final engineering drawings, enabling the company to move to the next step, installing their equipment at the LEFFF to begin pilot-scale fuel fabrication.

Kairos plans to begin production of enriched fuel for Hermes at the LEFFF in 2026, first using depleted uranium to validate the operation before introducing high-assay low-enriched uranium allocated by the Department of Energy. Los Alamos employees will perform the work with direction and support from the Kairos team.

*Meet the **Principal Investigator***

TIM COONS
Los Alamos National Laboratory

Working with Los Alamos to de-risk TRISO fuel fabrication is a significant step toward the demonstration and deployment of Kairos Power's advanced reactor technology. The combination of Kairos Power's expertise with the lab's facilities and capabilities enables the move toward commercial manufacturing.

MICAH HACKETT
Vice President of Fuels & Materials
Kairos Power

Top: Kairos Power Senior Engineer II Jacqe Jansen Van Vuuren, Power Senior Engineer I John Maher, and Power Senior Engineer I Kirby Boone at Kairos Power's Pebble Development Lab at the company's Manufacturing Development Campus in Albuquerque.

Right: An engineer takes a dimensional measurement of an annular fuel pebble using a Vernier caliper.

Mercury Bio

AGREEMENT TYPE: CRADA

Mercury Bio is developing a vesicular drug delivery platform that can access every organ in the body and target specific cells that are causing disease in a patient.

Mercury Bio's yEV™ system uses yeast extracellular vesicles to carry molecules, including therapeutics like RNA, proteins, and small molecular weight drugs to cells. Precision targeting increases the efficiency of drug delivery and reduces off-target side effects.

Mercury Bio was able to access Los Alamos National Laboratory's specialized computational resources and artificial intelligence algorithms through a TRGR Project. In this unique computational workflow, AI is used to design ligands, or small proteins positioned on the surface of the vesicle that will bind to cell-specific receptors for precision cargo delivery.

Hundreds of ligands that don't exist in nature are designed by AI and then the choices are narrowed down by computational screening to those most likely to succeed. This method slashes the time needed for laboratory experiments done by Mercury Bio and greatly reduces the cost of product development. Since the inception of the TRGR Project, the TRL has moved from 3 to 5. This quicker therapeutic development time could also save lives during a future pandemic.

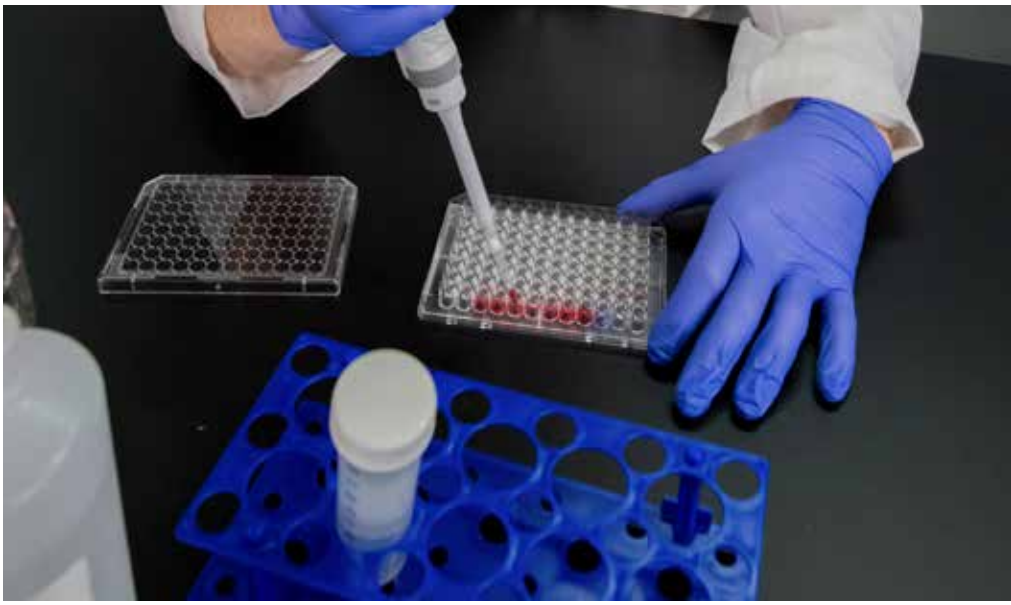
Mercury Bio's work with Los Alamos is part of the company's efforts to create a system that can deliver antibodies to cells or intracellular immunotherapeutics. The same approach could also potentially work to deliver Alzheimer's cures by crossing the blood-brain barrier. The company is continuing to collaborate with Los Alamos and is validating its patented technology with other partners.

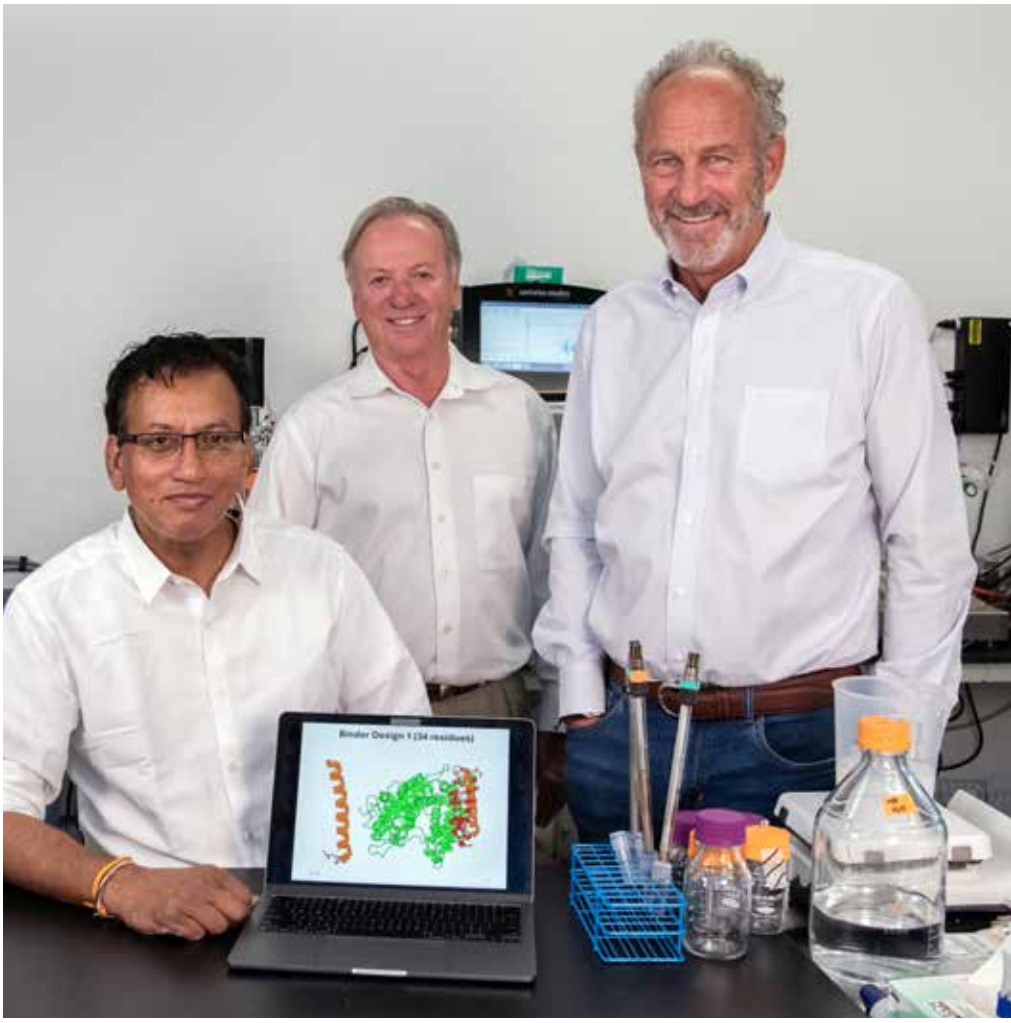
*Meet the **Principal Investigator***

SANDRASEGARAM GNANAKARAN
Los Alamos National Laboratory

In silico computational design of targeting ligands displayed on the surface of our yEV drug delivery system saves us substantial time and money and allows us to deliver solutions to the market more rapidly.

RICHARD SAYRE
CSO
Mecury Bio Inc.





Top: Proteins (ligands) designed by the Los Alamos Theory Group and produced at Mercury Bio.

Right: Los Alamos Scientist Sandrasegaram Gnanakaram with Mercury Bio COO Paul Laur and CEO Bruce McCormick view a representation of an artificial intelligence-based design of a ligand (orange, left) and the ligand docked with a receptor (right). The red areas depict the binding interface between the ligand and the receptor.

Morphorm

AGREEMENT TYPE: CRADA

Morphorm is an engineering simulation and optimization company creating software based on Plato open-source software developed by Sandia National Laboratories.

Although Plato is freely available, its complexity presents a significant learning curve.

Miguel Aguilo understood that few companies had an expert like himself or Plato co-developer and Sandia Researcher Josh Robbins on staff. Aguilo left Sandia to start Morphorm so he could be the bridge between the Labs and industry for design simulation software which is in demand for semiconductor, sustainable energy, and defense industry applications.

Engineers in government and industry require simulation software to optimize critical design parameters for semiconductor materials used in computer chips, solar cells, and other applications. They need software that simulates and optimizes multiple engineering facets including thermal and mechanical.

A successful TRGR Project with Sandia has increased the software's computational efficiency and enabled completion of a semiconductor simulation solver to characterize the physical behavior of solar cells or modules in three dimensions. In addition, a one-of-a-kind capability to simulate electrical, thermal, and mechanical behavior was added.

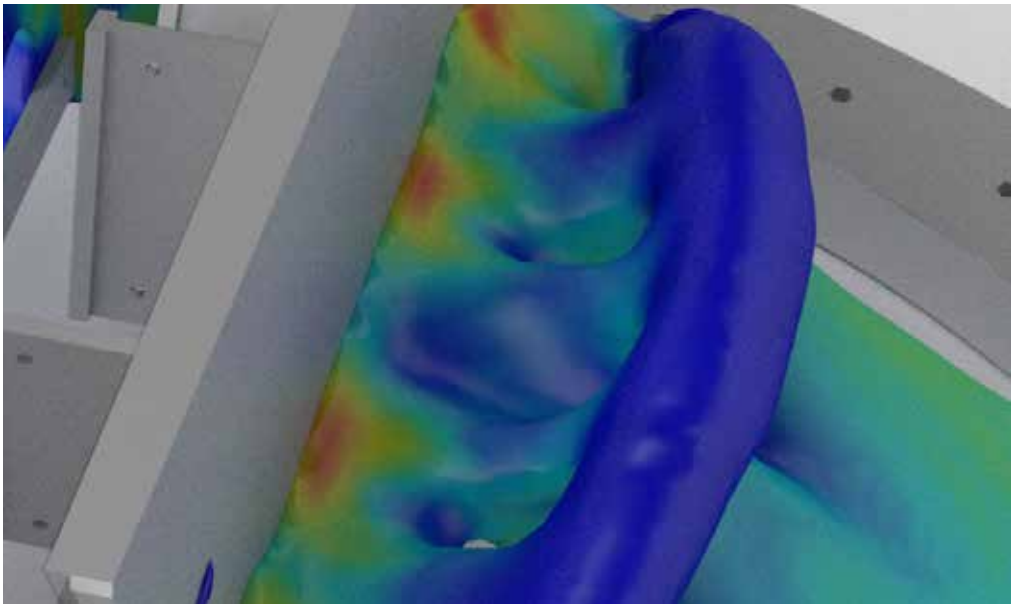
These new capabilities are being leveraged. Morphorm is now beginning to test the software under real-world conditions with the goal of advancing the TRL from 4 to 6. Data offered by a manufacturer of solar cells and modules is being used to validate the software. A follow-on project with a U.S. original equipment manufacturer in the defense industry is also being formalized that will build on the computational efficiency enhancements developed in the TRGR Project.

*Meet the **Principal Investigator***

JOSH ROBBINS
Sandia National Laboratories

The TRGR Project has been a pivotal step in transforming advanced lab-developed simulation tools into practical solutions for industry. We're now able to deliver fast, 3D multiphysics capabilities that directly support innovation in semiconductors, solar energy, and defense.

MIGUEL AGUILO
Founder and CEO
Morphorm LLC



Top: Miguel Aguilo in front of a screen displaying a structural component design generated by Morphorm's proprietary software. The design illustrates an optimized material layout aimed at enhancing both mechanical and thermal performance.

Right: Close-up view of the von Mises stress field in a generatively designed 3D antenna support bracket.

NeoSan Labs

AGREEMENT TYPE: LICENSE

NeoSan Systems engineers automated decontamination systems for indoor environments.

The company's patented Total Reset Technology® combines advanced dry mist systems with the nontoxic decontamination formula they license from Sandia National Laboratories. The automated system atomizes the formula and decontaminates and disinfects a room or entire building in 15 minutes. It is effective for both biological and chemical agents. No wiping or rinsing is required, and the formula is so safe, people can return to the area immediately.

In a TRGR Project, Sandia Researcher Andres Sanchez analyzed the company's dry mist system's nozzles to see how they would perform in a large volume space. He also tested how well the system would neutralize a surrogate fentanyl (synthetic opioid) deposited on materials found inside New Mexico Rail Runner Express commuter train cars.

Studies included particulate diagnostic testing for particle size distribution and plume density, and decontamination surface contact time. The successful demonstration using a prototype system under normal operating parameters helped move the TRL from 5 to 7. It also expanded Sandia's aerosol science protocols to address mitigations against pharmaceutical-based agents.

The resulting data were used by NeoSan to close a deal with Herzog, the company that provides operations and maintenance services for the Rail Runner Express. This was an important transition from R&D to real-world commercial applications for NeoSan's Total Reset product line. NeoSan is also getting ready to deliver a system to a customer in the property restoration business. Total Reset systems are available for commercial, residential, and healthcare settings.

*Meet the **Principal Investigator***

ANDRES SANCHEZ
Sandia National Laboratory

The TRGR Project validated the commercial applicability of NeoSan Systems' Total Reset Technology and helped our team refine application protocols.

GREG CHARILLON
President and Co-founder
NeoSan Systems
a division of NeoSan Labs Inc.

Top: Nozzle designed to disperse NeoSan Labs' DF200 Decon solution as dry mist.

Right: NeoSan Technician Matt Alldredge, Intern Software Engineer Diego Ornelas, and Lead Engineer and Co-founder Wayne Berry at the company's facility.

Safe Station

AGREEMENT TYPE: LICENSE

Safe Station is building a physical cybersecurity device using breach sensors licensed from Sandia National Laboratories.

Recent regulations covering physical cybersecurity for federal nonclassifed contractors have created demand in that market, which is why it's the first the company will enter. This will be followed by the federal classified market and the public sector, such as school districts.

In order to move this new product closer to market, Safe Station worked with Sandia Mechanical Engineer James Youchison on a TRGR Project where prototypes were successfully built and validated for design and functionality, moving the TRL from 4 to 8. Modifications were made so the device can be integrated into server racks as well as into individual computers. Three security level options were tested. This lets customers choose a level depending on their classification requirements.

Now that testing has been completed in a controlled environment, the company hired a local Department of Defense-compliant manufacturer to produce a limited run of Safe Station breach sensors. Working with cybersecurity sales partners that serve the public sector and government agencies, Safe Station will test their sensors for 90 days in live business environments at a handful of customer locations. This will be a trial run of remote access and software integration before large-scale product manufacturing commences.

As a result of the TRGR Project, Safe Station has been able to rapidly take a product idea from rough sketch to reality. They hope to have their product available for sale by the beginning of 2026.

*Meet the **Principal Investigator***

JAMES YOUCHISON
Sandia National Laboratories

Our device integrates Sandia's patented breach sensors to deliver remote-managed access, rapid response, and shutdown—all designed for NIST-compliant physical cybersecurity. TRGR made it possible to commercialize this critical infrastructure protection technology.

JESSICA GENTRY
CEO
Safe Station LLC

Top: Jessica Gentry works on the intuitive user interface and remote management software that lets users manage every Safe Station in real time — from anywhere.

Right: Safe Station's secure enclosure, where breach sensors and network switches come together. This is the desk unit model; a server rack version is in the final design phase.

Tucumcari Bio-Energy

AGREEMENT TYPE: LICENSE

Tucumcari Bio-Energy is a leader in sustainable energy and agricultural solutions.

Tucumcari uses an abandoned ethanol plant and an anaerobic digestion process to convert cow manure into valuable outputs including methane and plant nutrients. Agricultural waste like livestock manure is an attractive feedstock for biofuel production because it is abundant and energy dense, but, when processed, it can leave behind a lot of unutilized material.

A TRGR Project with Sandia National Laboratories focused on extracting more biofuel to improve the economic viability of the process. Using an oxidative post-treatment method, Sandia Scientist Daniella Martinez worked with Tucumcari to improve feedstock utilization and recover untapped biomethane. Biolignin makes up the majority of available biomass, but it's structurally complex and difficult to break down. Lignin-rich material treated with the Sandia method produced four times as much methane on average compared to untreated material.

As a result of these successful experiments, the TRL of the process moved from 5 to 6, and manure as well as a variety of other typically resistant materials comprising agricultural and forest waste can be used to create more biofuel. This makes the process more flexible and economical. With fuel and fertilizer being expensive inputs used in agriculture worldwide, more efficient techniques for producing them while reducing the volume of energy-rich material going to waste are needed.

A Sandia Laboratory Directed Research and Development project is being used to continue the research and do further techno-economic evaluation. Results are also being published in a scientific journal.

*Meet the **Principal Investigator***

DANIELLA MARTINEZ
Sandia National Laboratories

Cracking lignin is the key to unlocking the full potential of agricultural biomass; it allows us to convert what was once considered a barrier to energy production into a pathway for more renewable fuels.

ROBERT HOCKADAY
President
Tucumcari Bio-Energy Inc.

Top: Loading a pressure cooker with one liter canning jar samples of cattle manure that have gone through thermophilic bacterial digestion. Thermal history indicator tape is wrapped on the jars to verify proper sterilization. Ten small-scale batches of anaerobic digestion were completed in the company's laboratory.

Right: Robert G. Hockaday, Maria A. Nava, and Robert F. Hockaday in front of six 200,000 liter bio-reactors. These tanks are to be converted from grain ethanol fermenters to biomass thermophilic anerobic digestors in the next step of pilot plant development.

VastVision Technologies

AGREEMENT TYPE: LICENSE

VastVision Technologies is a company with an inventory management and asset tracking platform that works with GPS and radio frequency tracking.

The company licensed MagTag technology from Sandia National Laboratories after recognizing its potential to revolutionize how assets are tracked. Unlike RF tags, MagTag technology is a chip-scale magnetic smart tagging and sensing platform. Originally developed to track nuclear materials which are often stored in heavy metal containers that make RF tags unworkable, MagTags have magnetic-based resonator arrays that can be pinged with an AC magnetic frequency by a handheld reader that can measure and analyze the response. They require no batteries or maintenance.

In order to move the promising technology to market, VastVision partnered with Sandia for a TRGR Project that would leverage the Labs' specialized equipment and expertise. Sandia Scientists Jamin Pillars and Christian Arrington, who helped develop the MagTag technology, worked with the company to advance the TRL from Level 4 to 5 by further developing the handheld reader, the system's environmental sensing capabilities, and microfabrication techniques for including multiple types of detection sensors on one chip.

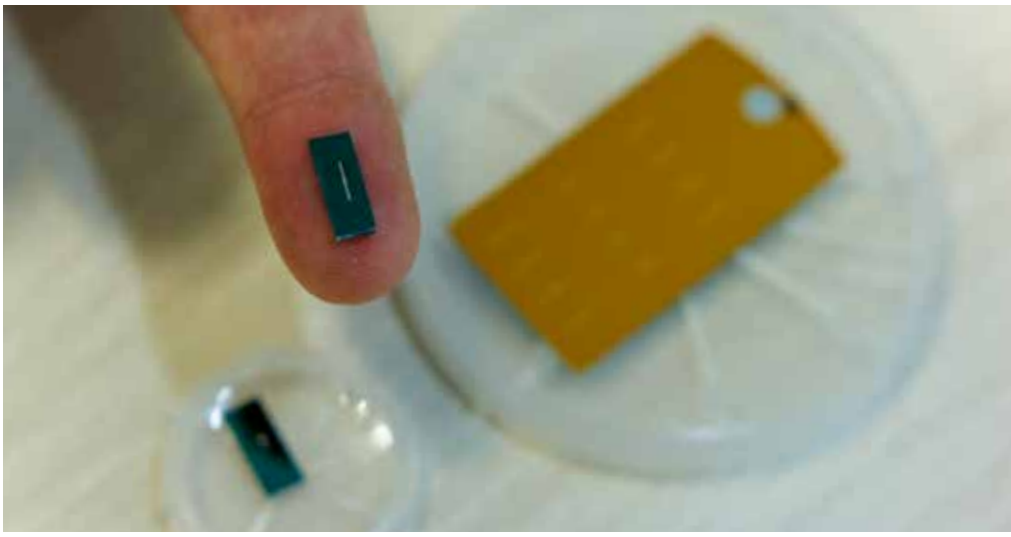
After achieving its TRGR goals, VastVision was accepted into the New Mexico Lab-Embedded Entrepreneur Program to continue research, and received a $925,000 Advanced Energy Award from the state of New Mexico, bringing total investment in the company to over $2 million. VastVision is growing with both Pillars and Arrington leaving Sandia and joining the company via the Sandia Entrepreneurial Separation to Transfer Technology program.

*Meet the **Principal Investigator***

JAMIN PILLARS
Sandia National Laboratories

We were excited to work with Sandia through the TRGR Program. The support and funding provided were instrumental in helping us achieve our goals, and we're proud of what we accomplished together.

KYLE GUIN
CEO and Co-founder
VastVision Technologies LLC



Top: Christian Arrington and Kyle Guin showing an electroplating chemistry liquid in a beaker for depositing magnetoelastic thin films and a wireless test setup targeting micro-scale devices to be used in future tagging, tracking, and environmental sensing.

Right: A rectangular piece of silicon resting on the end of a fingertip. The 0.025 x 0.200 x 6 mm magnetoelastic device is the small silver rectangle in the middle of the silicon and is smaller in size than a 0.5 mm mechanical pencil lead refill. The device is microfabricated combining novel electroplating and semiconductor processes.

In-Progress Projects

TRGR applications are accepted and projects are started on a rolling basis throughout the year. Sandia and Los Alamos national laboratories scientists and engineers are now working with companies on the following projects.

Funding for each project cannot exceed $150,000 per project per state of New Mexico fiscal year.

- **Clean Aqua Solutions**
- **Filtravate**
- **Gemini Energy**
- **In Silico Biolabs**
- **Michael Thomas Coffee**
- **Resonantia Diagnostics**
- **SciVista**
- **xLight**

SANDIA NATIONAL LABORATORIES

LOS ALAMOS NATIONAL LABORATORY

Program Metrics

Companies Participating in TRGR

FY25	Sandia	Los Alamos	Total
Licenses	8	2	10
CRADAs	3	9	12
FY21-FY25*			
Licenses	20	4	24
CRADAs	6	10	16

Number of Projects

FY25	11	11	22
FY21-FY25*	27	16	43

Number of Companies**

FY21-FY25	26**	12**	36***

Value of Assistance Provided

FY25	$999,999.52	$518,643.30	$1,518,642.82
FY21-FY25	$2,709,604.52	$1,234,832.69	$3,944,437.21

**TRGR Projects start at various times during the year so they may be active during multiple fiscal years.*
***Three companies have participated in more than one TRGR Project.*
****Two companies had TRGR assistance from both labs.*

CUMULATIVE ECONOMIC IMPACT*
Companies Participating in TRGR

TRGR is accountable to the state of New Mexico for its expenditures. It measures its economic impact through client surveys conducted by Research & Polling Inc. and economic analysis provided by Robert Grassberger, PhD Economist.

	FY21-FY25
Return on Investment (ROI)**	0.26
Small Business Jobs Created & Retained	74
Increase in Revenue	$1,610,000
Investment in NM Goods / Services	$1,893,000
New Funding / Financing Received	$27,567,404
Average Reported Salary (2025)	$92,661

**Economic surveys are performed six months to one year after project completion. It should also be noted that TRGR Projects are intended to mature technology and move it to a commercial state.*
***ROI is based on salaries of jobs created and retained. Because TRGR Projects are in a very early stage of development, the ROI to the companies may not be truly reflected in these values. It should be noted that the six companies that completed this survey showed a large amount of new funding and financing.*

Benefits to TRGR Companies

New Mexico companies achieved positive results after receiving technical assistance from the TRGR Program.

Feedback from companies that participated in the economic impact client survey revealed that:

ALMOST $4 MILLION	total in new funding, financing, or investment was received by 4 companies as a result of the assistance.
100%	report ability to move the technology closer to maturation.
2 OF THE 10	companies moved from prototype to marketing/manufacturing a commercial product or service.
70%	report that they have benefited from, participated in, and/or acquired additional services or capabilities from working with Sandia or Los Alamos.
16	new employees hired by companies; 31 employees retained due to the assistance.
100%	remain located in New Mexico.

Customer Satisfaction

Quality of TRGR Services	4.9
Satisfaction with Project Manager	4.9
Satisfaction with Technical Staff	4.9
Effect of TRGR Assistance on Company	5.0
Would Recommend TRGR Program	5.0

Customer Satisfaction was rated on a scale of 1-5, with 5 being best.

Thank You

...to all the Review Panelists for their leadership, advice, and guidance in support of TRGR.

...to all the Sandia and Los Alamos national laboratories principal investigators who applied their expertise and knowledge to help New Mexico companies commercialize technologies.

...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 TRGR.

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TRTR

Technology Readiness
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