

The background image is a composite. The top half shows a person from behind, walking through a large glass door into a bright, open landscape. The bottom half shows a digital constellation map overlaid on a floor, with green lines connecting points and blue circles representing stars or planets. The text is centered in the middle of the image, within a white rectangular frame.

NEW MEXICO

THE PLACE FOR SPACE

Ready for Launch

New Mexico has a long history of being at the forefront of innovation in the space industry.

Access to world-class research facilities, high concentrations of talent, one-of-a-kind testing facilities, and a world-class manufacturing climate have created a flourishing space industry in New Mexico.

Fostering a Culture of Innovation

In May of 2021, Virgin Galactic successfully launched its first human spaceflight from its New Mexico home port at Spaceport America (seen below), making New Mexico the 3rd state to reach space.

This flight fueled excitement for New Mexico's space industry and created additional momentum for the industry, helping the state attract other cutting edge aerospace companies like BlueHalo, SpinLaunch (pictured above), Sceye, and Lasen.

New Mexico is also cultivating a strong startup technologies cluster with the addition of the Q Station incubator program. Q Station provides the opportunity for startups and small companies to participate in soft landing and incubator programs, locate in a unique co-working environment, and partner directly with the industry.

New Mexico's strong R&D ecosystem has created a strong framework for direct tech transfer coming from the national labs in the state. The Air Force Research Lab's (AFRL) Technology Engagement Office is specifically designated to facilitate the transfer of AFRL




Photo courtesy of SpinLaunch



Photo courtesy of Virgin Galactic

3RD
State to
Reach Space



SpinLaunch is an innovative new space technology company that has created an alternative method for putting 200 kilogram class satellites into low earth orbit. The company uses a novel centrifuge system via a suborbital accelerator (seen to the left) that rapidly spins the rocket around until launching the rocket at hypersonic speeds. The company completed its first successful test launch in October 2021, making waves in the space industry.

technology for defense and non-defense applications. Sandia and Los Alamos National Labs also actively engage in tech transfer for local companies, having set up programs to facilitate the process. All three organizations also have a presence at the UNM Lobo Rainforest, a key part of the Innovate ABQ initiative.

New Mexico's long history of fostering a culture of innovation, world-class R&D ecosystem, and the state's dedication to creating a new pipeline of talent makes **New Mexico the place for space.**


The Space Port America Operation Center houses an on-site emergency response team, covering security and specialist fire and emergency medical services 24 hours a day, 7 days a week. From the operations center, the on staff airfield and airspace management team, facilities support, IT, project managers, aerospace engineers and public relations specialists are on hand ready to support your mission.




The Talent Companies Need

New Mexico’s long history of success in cutting edge R&D has generated very high concentrations of talent in the STEM fields essential to the space industry. Education and workforce training leaders throughout the state actively work with employers to build the new talent pipeline they need now, while also developing the talent of the future. New Mexico’s tech talent pool has always been on the cutting edge of innovation, playing a key role in the growth of the space industry.

 **1.7 Times**
higher employment
in the sciences than
the U.S. average

 **1.5 Times**
higher employment
in engineering than
the U.S. average

 **36,000**
employed in
computer, math,
and engineering
occupations

Engineer Classification	Albuquerque	Las Cruces	NM Statewide Total	Total Talent Markets Serving NM
Aerospace Engineer	430	215	700	790
Electrical Engineer	1,230	541	1,510	1,757
Materials Engineer	245	61	390	451
Industrial Engineer	340	302	500	756
Mechanical Engineer	232	486	1,300	1,657
Manufacturing Engineer	60	403	2,020	2,423
Total	2,537	2,008	6,420	7,834

Creating a Pipeline of New Talent



New Mexico State University is a hub for innovation and R&D in space and aerospace. NMSU is home to the Physical Science Laboratory (PSL), a 400-person research center that partners with companies and government agencies to develop training programs for students to readily work in the field. PSL is a leader in sub-orbital platforms, information modeling, specialized intelligence support, advanced NASA exploration and experimentation, homeland security technologies, and advanced weapons development and testing.

The University of New Mexico is a comprehensive, Carnegie–designated Research 1 University and is the nation’s only flagship state university that is also a Hispanic Serving Institution. UNM is a place where cutting–edge research and creative endeavors flourish. Among the university’s outstanding research units are: The Center for Advanced Research Computing, Cancer Center, New Mexico Engineering Research Institute, Center for High Technology Materials, Design Planning Assistance Center, and the Mind Research Network. UNM also runs COSMIAC, a T2 research center at the school of engineering aiming to bridge the gap between academia, government and industry by having student interns work on projects driven by local organizations and COSMIAC engineers.



New Mexico Tech is a nationally ranked university dedicated to advancing science, technology, engineering, and mathematics through research, education, and innovation. NMT has more than a dozen research divisions that work with private industry, government agencies, and other universities to conduct research for the science and engineering industries. NMT has repeatedly ranked number one in the nation for Chemical Engineering and Mechanical Engineering

while remaining in the top 2% among all universities in Computer Science and Physical Science.

Central New Mexico Community College (CNM)

Central New Mexico Community College (CNM), located in Albuquerque, serves more than 30,000 students and works directly with private industry to ensure graduates have the exact skills and knowledge companies are looking for. Students can choose from 150 associate degree programs, such as: applied technologies; mathematics, science and engineering; business and information technology; and more.

Doña Ana Community College (DACC)

Doña Ana Community College has locations throughout the southern part of New Mexico, including in Las Cruces and Sunland Park, and serves more than 10,000 students. DACC offers both traditional degree and certificate programs, including Aerospace Technology, and customized training programs developed in partnership with private companies.

Eastern New Mexico University in Roswell (ENMU)

Located three hours south of Albuquerque, the city of Roswell hosts the Aviation Maintenance Technology (AMT) program through Eastern New Mexico University. Upon successful completion of the FAA 14CFR Part 147 program, students are issued a certificate acknowledging their eligibility for FAA testing. Students develop the skills and knowledge necessary to complete the Federal Aviation Administration written, oral and practical examination.

Aerospace Companies in New Mexico

Albuquerque

ABQ Manufacturing Inc.
Advanced Optical Technologies
Aegis Technologies
Aerospace Corp Aerotek
Aerospace Composite Structures
Aerospace Systems
All American Supply
Alta Data Technologies
Applied Defense Solutions – L3
Applied Research Associates (ARES)
Applied Technologies Associates (ATA)
Ares Corporation
ASRC Aerospace
Atamir Joint Venture
A-Tech
Bae Systems
Ball Aerospace and Technologies
Belcan
Bell Aerospace Services
Blacksky
Bluecom Systems
Bluehalo
Bluesky Design
Boeing
Booz Allen Hamilton
Bye Aerospace
Chroma Systems Solutions
Collins Aerospace
Continental Machining
Crane Aerospace
CTS Corporation
Desert Aerospace
Eaton
Eclipse Aerospace
Epoch Concepts LLC
ERT Inc

Excel Manufacturing
ExoAnalytic Solutions
Fiore Industries Inc.
General Atomics
Electromagnetic Systems
General Dynamics Corporation
General Technology Corporation
Global News Intelligence
Goodman Technologies LLC
Great River Technology
Harris Corp.
Honeywell
ITT EXELIS
Jacobs
Kaman Industrial Tech
Kane Robotics
L-3 VERTEX AEROSPACE
L3Harris Technologies
Leidos
LinQuest Corporation
Litton Industries
LoadPath LLC
Lockheed Martin
Machining Solutions
Management Sciences Inc
Mechtronic Solutions
MEI Technologies Inc.
Merrick and Company
Metis Technology Solutions
Microelectronics Research Development
Moog Inc.
MZA Associates Corporation
NASA
National Technical Systems
NG-Innovative Systems (formerly Orbital ATK)
Nova Space
Novi LLC
Okun Consulting Solutions
One Aviation

OptiPulse
Optomec
Overlook Systems Technologies
Parsons
Peraton
Polaris Alpha, a Parsons Co.
Precision Grinding
Predictive Aviation
Redwire
Robotic Skies
RS21
Saber Astronautics
SAIC
Sandia Aerospace
SDV Construction
Sierra Peaks Corporation
Silent Falcon UAS Technologies
SK Infrared LLC
SolAero Technologies Corp
Southern Aerospace
Space Dynamics Laboratory
Standard Machine
Sun Country Industries
Sunrise Technologies
SVS
Talon Technologies
Taycar Enterprises
Tean Technologies Inc.
The Aerospace Corporation
Torch Technologies
Ultramain Systems
Universal Technology Corporation
Vertical Power
Verus Research Vibrant
Vibrant Corporation
Ziasat

Santa Fe

Northrop Grumman
Info Tech



Las Cruces

ARCA Space
Lasen
National Reconnaissance
Office
Raytheon
TMC Design Corporation
Vista Photonics, Inc.

Roswell

Dean Baldwin Painting LP
Gulfstream Aerospace
Stewart Industries

Socorro

Space Sciences Corporation
AMDA
Integrated Technologies Group

Moriarty

Sceye

Rio Rancho

Planetoid Mines Corporation

T or C

Virgin Galactic

Texaco

D&D Aviation

The Air Force Research Lab (to the right) is an key player in New Mexico's space ecosystem.

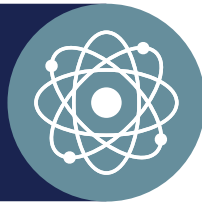


Research Institutions and Testing Facilities

New Mexico's success in attracting leading scientific innovators is in part thanks to state's long history as a world-class research center. New Mexico is home to two national Department of Energy Labs (Sandia and Los Alamos) and the Air Force Research Lab, all of which conduct R&D for the space industry.

The state is also home to three Air Force bases and four aerospace testing facilities; NMSU's Physical Science Laboratory, NMSU and FAA's Unmanned Aircraft Systems Flight Test Site, NASA's White Sands test facility, and the world's first purpose-built commercial spaceport, Spaceport America. New Mexico also provides access to the restricted air space in the southern part of the state.

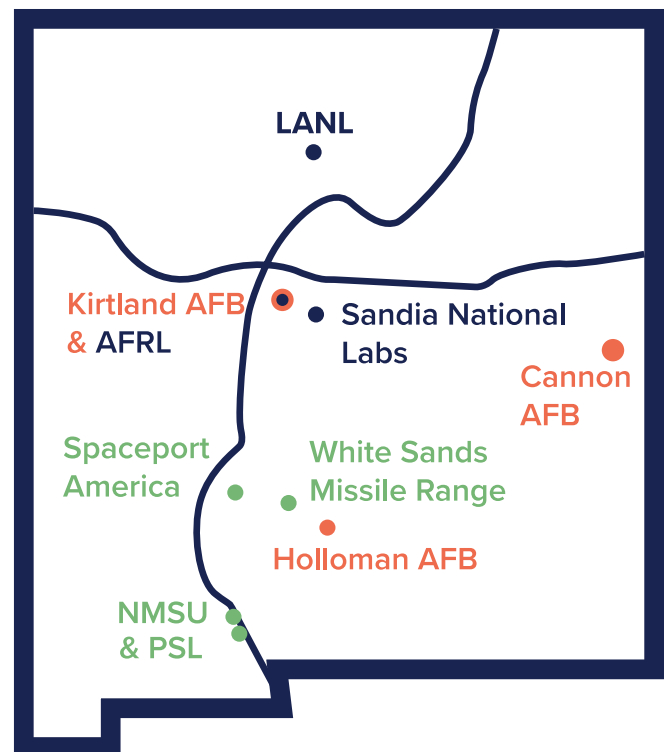
3 National Labs



3 Air Force Bases



4 Aerospace Testing Facilities with Access to Restricted Airspace



The Air Force Research Lab (AFRL)

The Air Force Research Laboratory (AFRL) is a scientific research organization dedicated to leading the nation’s discovery, development, and integration of war fighting technologies for air, space and cyberspace. AFRL has two directorates that support space research development at Kirtland Air Force Base in New Mexico; the **Directed Energy** and **Space Vehicles Directorates**.

Space Vehicles Directorate	Directed Energy Directorate
<p>438,000 Sq. Ft. of laboratory and office space</p> <p>800+ military, civilian, and on-site contractors employed</p> <p>Over 50 state-of-the-art research laboratories and testing structures</p>	<p>4,325 Acres of land to operate on</p> <p>Over 860,000 Sq. Ft. of laboratory and office space</p> <p>\$300M annual operating budget</p>

The Space Vehicles Directorate is the U.S. Air Force’s Center of Excellence for space technology research and development. Its mission is to develop and transition high pay-off space technologies to provide the military with space-based capabilities. The Space Vehicles Directorate is organized into 6 different divisions by major technology thrusts and support operations, including the **Spacecraft Technology Division**.

The Directed Energy Directorate of the Air Force Research Laboratory is the United States Air Force’s center of excellence for directed energy technology.

Strategic planning for technology development, demonstration, and transition is focused in four capability areas, including Space Control. Space Control is aimed at monitoring nearby and deep-space objects for seamless situational awareness.



The Cibola Flight Experiment Satellite (shown here), examines radio spectra for ionospheric and lightning studies, using field-programmable gate arrays (FPGAs). The satellite payloads were built by **Los Alamos National Laboratory**.

Photo Credit: Los Alamos National Laboratory

Space Rapid Capabilities Office (RCO)

The Space Rapid Capabilities Office (RCO) is also headquartered at Kirtland AFB in New Mexico with additional staff located in Washington D.C. and Colorado Springs, CO.

The Space RCO is modeled after the Air Force Rapid Capabilities Office, which seeks to quickly develop and produce prototypes. The primary goal of the Space RCO is to develop and deliver operationally dominant space capabilities at the speed of war fighting relevance.

The Space & Missiles Center (SMC)

The Space & Missiles Center is the development center of the Air Force Space Command and has its Advanced Systems and Development Directorate at Kirtland AFB in New Mexico. SMC is responsible for the Global Positioning System (GPS), military satellite communications, defense meteorological satellites, space launch and range systems, satellite control networks, space-based infrared systems and space situational awareness capabilities.

Los Alamos National Laboratory (LANL)

Los Alamos National Laboratory applies science and technology to national and global security challenges. LANL employs a diverse workforce of 9,000. LANL has designed, built, and analyzed data from instrumentation for space missions for more than 50 years, having flown over 400 instruments comprising of more than 1,400 sensors on more than 200 total launches. Today, the Intelligence and

Space Research Division continues that legacy, ensuring our nation's security and furthering space research and discovery.

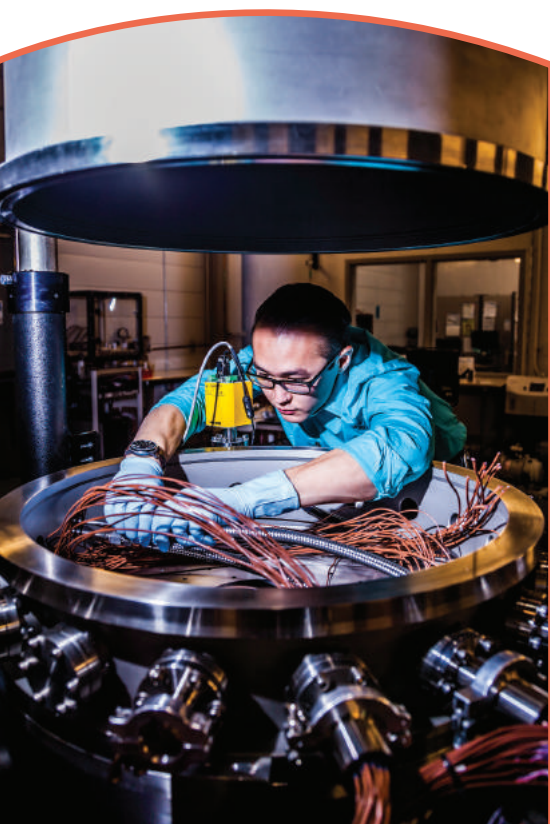
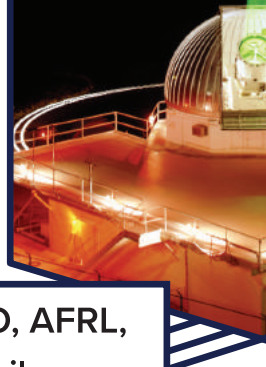
The Space RCO, AFRL, and Space Missiles Center combined receive over **\$900M** in funding annually and employ over **1,600**.

Sandia National Laboratories

Sandia National Laboratories employs nearly 11,000 employees, 6% of which are students and 52% of which are involved in R&D. Included in Sandia's five major programs of focus are two that are particularly important to the space industry; Space Mission and Surveillance and Reconnaissance (S&R).

Space Mission aims to address a wide range of complex, national security issues in space, while the S&R program develops, tests, and integrates cutting-edge technology for S&R systems. The S&R program was developed from Sandia's nuclear weapons radar capability, which led to Sandia's initial development of Synthetic Aperture Radar (SAR) systems for non-proliferation missions more than 25 years ago.

AFRL's Starfire Optical Range

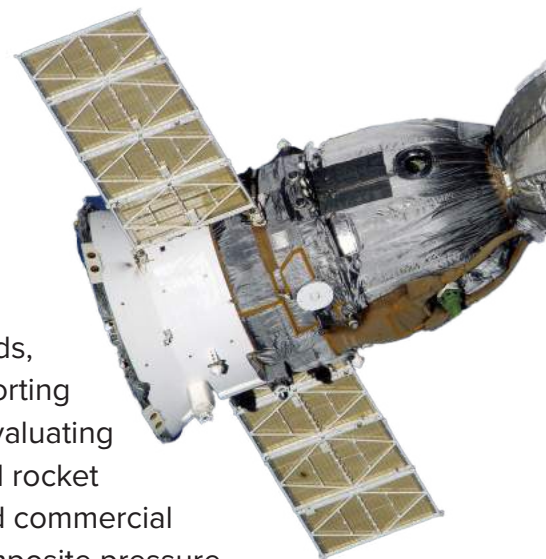




NMSU's Physical Science Laboratory

New Mexico State University's (NMSU) Physical Science Laboratory (PSL) was founded in 1946 in response to the nation's space and rocket programs and is a unique national resource that supports the development and application of new and existing technologies. The PSL provides opportunities for students to partner directly with industry experts and companies on the cutting edge of aerospace technology.

The PSL has expertise in Electronic Warfare, Counter Measures, Cybersecurity, Telemetry and Missile Systems, and Modern Day Aerospace and Scientific Ballooning.



NASA's White Sands Test Facility

NASA's White Sands Test Facility is located in White Sands, New Mexico. The test facility is self-contained with supporting personnel that has 50 years of experience testing and evaluating potentially hazardous materials, spaceflight components, and rocket propulsion systems for NASA centers, other government agencies, and commercial industries. The testing facility specializes in propulsion, oxygen, and composite pressure systems, as well as propellants and aerospace fluids and materials flight acceptance. The White Sands Test Facility is a component of the Johnson Space Center in Houston, Texas.



Air Force Research Laboratory:

- \$384M Budget
- 851 Civilian & Military Employees
- \$276M Contracts in NM
- Focus on directed energy and space vehicles



Sandia
National
Laboratories

Sandia National Laboratories:

- \$3.17B Budget
- 10,940 Employees
- \$267M to Small Businesses in NM
- Focus on energy, global security, bioscience, computing, and materials science



Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory:

- \$2.66B Budget
- 9,000 Employees
- 650 Contractor Personnel
- Focus on energy, biotechnology, high-energy physics, and advanced computing

Cultivating a Space Technologies Ecosystem

Established space companies like Virgin Galactic and SpaceX aren't the only companies with a footprint in New Mexico. The state has a flourishing ecosystem of organizations, startups, and incubator spaces helping to create the next wave of technological innovators, right here in New Mexico.



Q Station by AFRL is a new to the market incubator space for start up companies in the space industry. Q Station is designed to allow government, businesses, academia and organizations to collaborate, create and innovate in new ways. This can include collaboration on cutting edge technology, creating new opportunities for businesses to work with the government and developing innovative solutions for commercial and government markets. Eligible companies can potentially set up and use Q Station as their office for their first year free of charge. For more information visit the Q Station website, qstation.tech



The Hyperspace Challenge, powered by the Air Force Research Lab is a program where New Mexico and several other local companies bring together tech startups with defense innovators to accelerate innovation for the defense community. This unique program facilitates interactions between promising technologies and timely problems to increase rapid acquisition and contracting opportunities. For more information visit the Hyperspace Challenge website, hyperspacechallenge.com



NewSpace New Mexico is a nonprofit organization established to foster an entrepreneurial, business-focused commercial space ecosystem in New Mexico by making connections, advocating for stakeholders, and preparing for the future. For more information visit the NewSpace New Mexico website, newspacenm.org

Other key organizations in the space technologies ecosystem include: New Mexico Tech Council, Arrowhead Center at NMSU, Advanced Material Laboratory, Innovate ABQ, Santa Fe Business Incubator, ABQid, FatPipe, Joseph L. Cecchi VentureLab, Creative Startups, New Mexico Startup Factory, TEAM Accelerator, WESST Enterprise Center, Lobo Rainforest.



Image Credit: Varda Space Industries

2021 Hyperspace Challenge winners, **Varda Space Industries**, aims to increase access to manufacturing in space with orbital return capsules. Their technology allows manufacturers to utilize microgravity environments to produce commodities that cannot be made on earth, such as semiconductors, pharmaceuticals, and fiber optics.

A State Made for Manufacturers

75%

of the U.S. is reachable within two days by truck

7,800

workers employed in relevant production occupations

.78%

average effective property tax rate (among the lowest in the nation)

LOW

operating costs for manufacturers

0%

inventory tax

Single Sales Factor

reduces corporate income tax rates for manufacturers and HQs

New Mexico’s support for aerospace goes past offering access to world class research and testing institutes and a pipeline of experienced talent. The state also provides competitive operating costs and a pro-business environment for manufacturers at the cutting edge. New Mexico boasts strong logistical advantages including access to key consumer markets both nationally and internationally.

The Incentives You Need for Success

Local Economic Development Act (LEDA)

LEDA is a discretionary state incentive that can be used toward the reimbursement of land, building or infrastructure costs. Funding awards are determined on a project-by-project basis.

Job Training Incentive Program (JTIP)

JTIP funds on-the-job and/or structured training for expanding or relocating businesses. JTIP provides cash reimbursement of 50-75% of wages for up to 6 months.

Industrial Revenue Bonds (IRB)

IRBs allow for significant real and personal property tax and compensating tax abatements. Terms vary by community/project.

Rural Jobs Tax Credit

This credit is offered to employers in rural areas who are eligible for JTIP and is based on the wages earned in qualifying jobs occupied by an eligible employee for at least 48 weeks during a 12-month period.

High Wage Jobs Tax Credit (HWJTC)

Refundable credit tax credits equal to 8.5% of salary for any employees earning \$40K+ (in rural communities) or \$60K+ (in urban communities) The credit may be taken for four years.

Technology Jobs and R&D Tax Credit

This tax credit is equal to 5% of qualifying R&D expenditures for businesses under 50 employees with qualifying expenditures under \$5 million.

Space Gross Receipts Tax Deduction

NM businesses may deduct receipts from launching, operating, and recovering space vehicles or payloads; preparing a payload; and operating a spaceport. Receipts from the provision of R&D, testing and evaluation services for the U.S. Air Force operationally responsive space program may be deducted from gross receipts.



SPACEPORT

Spaceport America is a world-class facility providing unique and compelling advantages for testing and commercial operations. The facility is located in Southern New Mexico, is adjacent to the U.S. Army White Sands Missile Range (WSMR) and has already attracted some of the most respected companies in the space industry, including Virgin Galactic, its anchor tenant.

Spaceport America Advantages

18,000 Acres

in a remote area that protects technology

340+ days

of sunshine

IT team available 24/7

to safeguard customer equipment and activities

FAA-licensed

horizontal and vertical launch areas

Access to DoD frequencies

facilitated as necessary with connections available to dedicated fiber at 1GBPS+

6,000 Square Miles

of restricted airspace from surface to unlimited altitudes

12,000 ft.

runway

4,600 ft. Above Sea Level

increasing payload capacity

Low Horizons and Line-of-Sight Obstructions

allowing for optimally configurable transmitting/receiving stations with EM/RF spectrum

Resident Level 3 Security,

emergency management, and paramedic staff available



AMERICA

“Fifteen years ago, New Mexico embarked on a journey to create the world’s first commercial spaceport, Today, we launched the first human spaceflight from that very same place, marking an important milestone for both Virgin Galactic and New Mexico...”

- Sir Richard Branson, Virgin Galactic, May, 2021

Contact Us

To learn more about how New Mexico can help your business succeed, contact The New Mexico Partnership. The Partnership is designated by the state to be the single-point-of-contact for helping businesses locate in New Mexico and can provide expertise on talent, critical infrastructure, educational and R&D institutions, real estate and facilities, incentives, and all the other factors that go into a business location decision. Contact Melinda Allen, President & CEO, by phone at (505) 377-4123 or by e-mail at MAllen@NMPartnership.com.

www.NMPartnership.com • info@NMPartnership.com

 **NEW MEXICO** partnership


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